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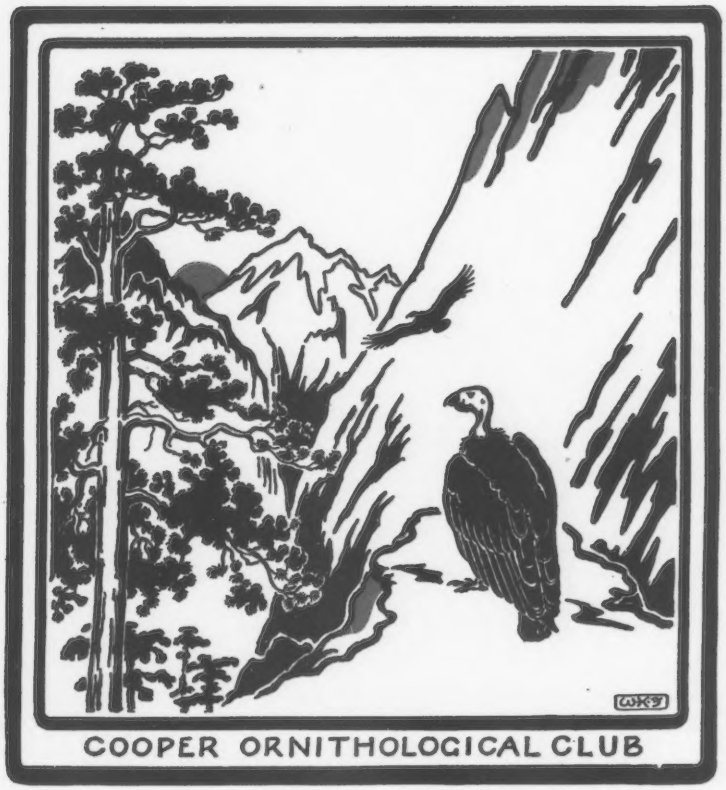

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A Magazine of Western Ornithology

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THE CONDOR

VOLUME 48 NOVEMBER-DECEMBER, 1946 NUMBER 6

OBSERVATIONS ON THE BIRDS OF MOUNT McKINLEY NATIONAL PARK, ALASKA

By ADOLPH MURIE

Mount McKinley National Park, in interior Alaska, lies mainly on the north side of the Alaska Range. It is characterized by rolling, treeless tundra with numerous small ponds, by streams flowing over broad gravel bars, and by mountains with a multitude of ridges and peaks varying from elevations of 4000 to as much as 20,300 feet. Narrow strips of spruce that border the streams extend for considerable distances into the park but they generally play out at an elevation of 3000 feet.

The observations recorded here were made chiefly from 1939 to 1941 but a few of them date back to 1922, and a few were obtained in the course of a brief stay in the fall of 1945. They are of a miscellaneous nature and were made incidental to other studies. All the birds seen in the park are not listed but only those on which data were obtained that appear to be either of special distributional or seasonal interest or of significance to the local ecology. Since Mount McKinley National Park has been set aside as an area to be left in a natural condition, the accumulation of many observations will in time afford a valuable faunal history.

Dixon (1938) records 107 species of birds for the park and places five others in a hypothetical list. The following species, herein reported on the basis of sight records, are new to the park check-list: Shoveller (*Spatula clypeata*), Barrow Golden-eye (*Glaucionetta islandica*), Bonaparte Gull (*Larus philadelphia*), Violet-green Swallow (*Tachycineta thalassina*), Tree Swallow (*Iridoprocne bicolor*), Dipper (*Cinclus mexicanus*), and White-winged Crossbill (*Loxia leucoptera*). One of these, the Dipper, is in Dixon's hypothetical list and all of them are species which would be expected to be found in McKinley Park from our knowledge of their distribution in interior Alaska.

Colymbus auritus. Horned Grebe. On June 13, 1940, a Horned Grebe was seen skimming in a straight line over the surface of a small pond, bearing down on a pair of Old-squaw Ducks that had just settled on the water. The ducks dived in time to avoid the attack, and the grebe followed them under water. When it emerged near the ducks, they flew a short distance and waited alertly for the reappearance of the grebe, which had again dived. After this maneuver had been repeated about ten times, the pair of ducks left the pond. Later a lone Old-squaw lit on the pond and flew away the second time it was chased by the grebe.

At one end of the pond the mate of this grebe was found near a nest in the reeds. On June 29 at least five young had hatched and one egg remained in the nest. The young rode on the backs of both parents. One of the parents was molting on the head but the other appeared to still be in full breeding plumage. On the same pond a Green-winged Teal (*Anas carolinensis*) swam with her brood of seven young, unmolested by the grebes.

In 1941, July 17, a pair was seen with four young on the same pond and this time there was also an Old-squaw with seven young. Both adult grebes on that date were in breeding plumage, while the year before one of the grebes was molting on June 29.

Spatula clypeata. Shoveller. On May 25, 1940, two pairs were seen in a pond near Wonder Lake; on June 11, 1940, five males were on a pond in the East Fork River area; on May 18, 1940, a pair was seen on a pond near Igloo Creek.

Glaucionetta islandica. Barrow Golden-eye. Frequently seen on the small ponds, and several broods were noted.

Clangula hyemalis. Old-squaw. Found nesting on a number of ponds each year. On May 24, 1939, two drakes, each in possession of a female, were busy chasing away a third unmated drake; the mated drakes did not resent each other. On June 4, when most of the males were in breeding plumage, a male was noted in full winter plumage. On this date a male was feeding on a small species of fly, thousands of which were on the water. It obtained flies by swimming with its bill held at the surface of the water.

Aquila chrysaëtos. Golden Eagle. Observations made between 1939 and 1941 have already been reported (Murie, 1944). The 632 pellets gathered and examined in that period showed that the ground squirrel was the main food of this eagle in McKinley Park; it occurred in 86 per cent of the pellets. In 1945 ground squirrels occurred in all 27 pellets that were collected. Other items in the 27 pellets were ptarmigan, mouse (*Microtus*), and bird (unidentified); each of these occurred in only one pellet. Although the Golden Eagle has been accused of preying on mountain sheep lambs by many, no studies so far reported have shown this eagle to be a significant enemy of lambs. In McKinley Park where sheep and eagles were both common, the studies showed that seldom are lambs eaten. No record of an eagle killing a lamb was obtained.

Falco rusticolus. Gyrfalcon. In 1941, at Polychrome Pass, a pair of Gyrfalcons nested on a ledge near the top of a perpendicular drop of 40 or 50 feet. The nest, composed of large sticks, was partially protected above by a slightly overhanging rock. The bluff on which this nest was located was apparently a favorite nesting site, for two other nests were found on it which had been occupied in recent years. Although a nest was not found in 1939 and 1940, the birds were frequently seen on these same cliffs and no doubt were nesting. In September, 1945, Gyrfalcons were observed several times at the nesting area. All the birds seen were gray, streaked with blackish markings.

In 1941 the two birds were first seen at the nesting site on May 12, on one of my first trips to the area. In 1939 they had been seen there on April 24. On May 14, 1941, one of the birds dropped what appeared to be a ground squirrel to its mate, who easily grasped it in mid-air. On May 27 one of the birds was harassing a Golden Eagle.

On June 5 at least 3 recently hatched young were in the nest. Later 4 young were seen. On June 7 and 14 an adult was seen standing on the edge of the nest. On June 21, when I climbed down to within a few feet of the nest from above, both parents called vigorously as they circled high overhead. Two or three times one of the birds came out of the sky in an almost perpendicular dive with wings set, but each time swooped upward again when 40 or 50 feet above me.

On July 7 the young appeared to be fully feathered. They became noisy when they saw me a few feet away. On this day and on the following day when the nest was approached, the adults remained out of sight. The young were still in the nest on July 16, but were flying on July 24. The birds were still near the site on August 3, the last day I visited the area.

The falcons frequently perched on the home cliff and on cliffs across a narrow gulch from the nest. On the favorite perches were many pellets and the remains of ground squirrels and ptarmigan upon which the falcons had fed. In the two years, 1941 and 1945, 194 pellets were gathered. They ranged in size from 5/8 to 1 inch in diameter and from 2 to 2¾ inches in length. The occurrence of the food items in the 194 pellets was as follows: ground squirrel in 129 pellets; mouse (probably all *Microtus*) in 53; bird (small birds, so far as known) in 32; ptarmigan in 9; duck in 1.

It is apparent that the Gyrfalcons were living mainly on ground squirrels and mice, the most abundant food species available. The ptarmigan were probably chiefly Rock Ptarmigan (*Lagopus mutus*). The "bird" remains were not identified except that some sparrows had been eaten. Savannah and Tree sparrows were rather common in the area and probably were represented in the bird remains. The carcass of what appeared to be a Western Sandpiper was found below the Gyrfalcon nest.

Falco columbarius. Pigeon Hawk. These falcons could usually be found during the summer in the timber near Igloo and Toklat cabins and in a patch of dead timber one mile east of Toklat cabin. A large stick nest near the top of a spruce growing beside the bunk house at Toklat was used in 1941, and a similar nest was occupied at Igloo. On July 10, 1941, the 3 young in the Toklat nest were almost feathered out.

Pigeon Hawks were frequently observed chasing Magpies (*Pica pica*). Often the Pigeon Hawks came in contact with the Magpies and caused them to squawk. However, it appeared that the Pigeon Hawks only harassed the Magpies, for the latter were not enough annoyed even to retreat from the area. On September 11 three different Pigeon Hawks chased a Magpie in relays before it alighted. Several times Magpies flew down at perched Pigeon Hawks, but the latter then took the offensive.

Canachites canadensis. Spruce Grouse. More common in the low country along the north

boundary of the park than in the higher country. A few were seen on Igloo Creek and near park headquarters, but the birds were generally scarce.

On September 13, 1945, I watched a pair of Spruce Grouse with their 3 well-grown young. When first seen, about noon, they were out on the road eating gravel. They soon moved into the spruces where they moved about in the shadows. Spots of sunlight were avoided or generally crossed in a hurry. When a bird flew to a tree and lit on a sunny terminal twig, it would at once move into the shade near the trunk.

Once the male was observed strutting and the female moving about on the ground near him. When I approached, he flew to a tree and stood in a strutting posture. One of the grouse fed extensively on spruce needles while I watched. One-half to 5/6 of a needle was removed, and where the grouse had fed the needles were all nipped. Other foods eaten were sedge seeds, crowberry (*Empetrum nigrum*) fruit, and leaves of *Hedysarum*.

Lagopus lagopus. Willow Ptarmigan. The population of this ptarmigan fluctuates extremely over a period of years. In 1922 and 1923 we found the birds very plentiful, and flocks numbering two or three hundred were commonly seen. On Upper Savage River scores of them ran before us as we walked along the river bars. After 1923 the ptarmigan continued to be plentiful until 1926, when their numbers were probably even greater. After 1926 ptarmigan became scarce, but reached another peak in 1933. They were reported very abundant from 1933 to 1936. I have no data for 1937 but they were scarce in 1938. From 1939 to 1941 the Willow Ptarmigan was common in its typical habitat, but was far from the abundance I observed in 1923. They were on the increase, though, being more plentiful in 1941 than in 1939. In 1943 they were reported very plentiful, so apparently they were nearing another peak in the cycle. In 1945 they appeared to be only slightly more plentiful than in 1941.

The males begin to acquire the brown nuptial plumage on the head and neck in late March. On March 27, two males were seen with a few brown feathers on the throat. On April 7 many males had acquired the brown feathers on the neck and head. The winter feathers persisted longest on the top of the head. The nuptial plumage (winter plumage except for brown head and neck) of the males is worn through April and May. In late May brown feathers make their appearance on the back, and in early June the males are in the full brown plumage. The females retain their winter plumage until early May at which time brown feathers give them a speckled appearance. By the middle of May only brown females were observed.

In the fall the change to winter plumage takes place largely in the last half of September. Specimens taken on September 12 had well developed white feathers hidden by the brown plumage. On October 9 in a flock of 70 birds only a few brown summer feathers were noted.

Coincident with the plumage changes in late March the males begin to crow and cackle, and many of them appear to have secured mates. In early May, and possibly earlier, the males begin to strut, with spread tail and wings lowered. The eggs are laid as early as the middle of May at a time when the inconspicuous summer plumage has been acquired by the females. Newly hatched young were reported on June 16. A nest containing six eggs was found on June 23.

In early May the feeding habits of the females differed strikingly from those of the male. While the male was feeding on the buds of willow and dwarf birch, which he neatly removed along the length of a twig, the female hunted and picked among the short ground vegetation, apparently feeding on insect life. She fed actively while the male moved along slowly and fed deliberately. Possibly the feeding habits of the female differed from those of the male because she was soon to lay a clutch of eggs and required a food richer in protein.

On April 7, 1941, three carcasses of birds in winter plumage were found under a short stretch of telephone wire. Two of the crops contained the tips of willow twigs, and a third the tips of willow twigs and blueberries. The twigs were about ½ inch long. The males observed in May fed only on the buds of willow and did not eat any of the twigs. Possibly the twigs were not eaten in May because the buds are larger than in winter. The stomach and crop contents of a male found dead on May 22 consisted of the following: *Empetrum nigrum* (seeds plus a few free skins) 70 per cent; *Vaccinium vitis-idaea*, 10 per cent; staminate cones of *Betula* (probably *nana*), 20 per cent; 1 coleopteran pupa (examined by A. C. Martin). On September 12 a group of ptarmigan was observed feeding on the buds and the terminal green portions of the twigs of dwarf willow.

Lagopus mutus. Rock Ptarmigan. This ptarmigan is generally found at an elevation a little higher than that occupied by Willow Ptarmigan, in more open country, but ranges of the two overlap broadly. The heart of the Willow Ptarmigan's range is the willow growth along streams and in low areas, but these ptarmigan commonly spread out into the more open tundra. The Rock Ptarmigan are usually found in the open tundra and range up the ridges, sometimes to their tops.

The Rock Ptarmigan populations, so far as my information goes, are rather stable. At no time did I observe the drastic fluctuations so common with the Willow Ptarmigan.

Late in April the female begins to attain the brown summer plumage. On May 20 a female was noted that was brown except for a few white feathers. On the other hand, white males were observed throughout May.

On June 28 during a light shower a female was discovered hovering nine newly hatched young. She feigned injury and the young scattered to hide.

Lagopus leucurus. White-tailed Ptarmigan. In 1922 and 1923 we always saw a few of these birds when hiking over the ridges at the head of Savage River—usually from one or two to a half dozen in a day. In 1939-41 only a single bird was seen in the summer. This one was on Sable Mountain. Whether this species was scarcer than formerly, I cannot say, for not much time was spent in its favorite habitat, which is on the higher, more barren ridges. At all times this ptarmigan appears to be scarce. On April 8, 1941, five of these birds in winter plumage were seen in Sanctuary Canyon,

Fig. 56. Golden Plover feigning injury after running from the nest; July 22, 1939.

feeding on the slopes adjacent to the river. Ranger John Rumohr said that he had often seen a few of them in the canyons of the Outside Range in winter. On September 8, 1945, 9 birds were seen along the stream in Savage Canyon.

On July 22, 1923, O. J. Murie and I found a family of one adult and 7 young, fairly well feathered. We herded them a hundred yards into the sunlight in order better to photograph them. As is usual with the White-tailed Ptarmigan, they were tame, the mother permitting us to approach within three feet of her while she continued feeding. A young one was easily captured and when released showed no indication of being nervous. Although tame on the summer range, this ptarmigan was quite wild when observed on the winter range.

Pluvialis dominica. Golden Plover. A few were seen near Sable Pass, Thorofare Pass, west of

Muldrow Glacier near Clearwater Creek, and on a broad flat near the top of the Outside Range, between Savage and Sanctuary rivers.

In 1941 two nests were found in the Thorofare Pass area. The nests were located in short *Dryas*, one of them beside a small clump of grass on a gentle slope, and the other on a level area near Stony Creek. The four eggs that each nest contained rested in a slight depression on a few dry leaves of *Dryas*. Apparently no nest material had been brought to the depressions.

One of the nests was found on June 4. A parent ran up the slope calling and flew away, only to return and retreat again. The bird returned to the nest to brood the eggs as I stood about 50 feet away, and when again flushed, it ran off with outstretched wings and spread tail pointed toward the ground. After a run it lay on the ground fluttering its outstretched wings. A little later the other

Fig. 57. Wandering Tattler on its nest; June 13, 1939.

parent was near the nest for a short time. On other occasions the birds often met me some distance from the nest and called. On June 29 one of the young had hatched and was in the nest, but an hour later it was lying four feet from it; both parents were near-by. On July 1 three of the eggs were still in the nest but one of them was pipped. This egg had been incubated at least 27 days.

The second nest was found on June 22. The bird at the nest ran off with head drawn in and held low and tail spread and pointed downward. It stopped 50 feet away and lay fluttering its outspread wings against the ground. Then it returned within 15 feet of me and ran off as before except that its wings were held extended. This was repeated five or six times. A little later both birds were at the nest when I approached and both ran off with wings outspread and tail held spread and lowered. Sometimes the wings were only partially spread and slightly lifted away from the body. On July 1, 1941, three of the young were hatched.

One of each of the two pairs had a much narrower band of black on the breast than its mate. On July 25 an adult was seen which had lost the black band running down the breast.

Aphriza virgata. Surf-bird. The Surf-bird is of special interest because the only nesting records are a downy young collected by O. J. Murie in the Forty-mile country in 1921 (O. J. Murie, 1924) and a nest found in McKinley Park by Dixon (1927) in 1926.

Surf-birds were observed several times near the summits of the Outside Range and on ridges between East Fork and Big Creek. On June 23, 1939, two Surf-birds were observed on a ridge west of Big Creek. One of the birds had flushed about ten feet from my companion. For two hours the two birds stood about a foot apart, preening and sleeping. Before leaving we searched for young or a nest but found neither.

On May 21, 1940, three birds fed together near the top of Sanctuary Mountain. These birds were calling considerably, especially when flying. The call given at this time of year, apparently a courtship call, differed from the usual one. It sounded like *throi-dee, throi-dee*. On one occasion in 1941 one of three birds feeding together flew several hundred feet into the air, circled widely, and called at intervals.

Capella delicata. Wilson Snipe. In May these birds were occasionally seen and heard in their nuptial flights. On September 14, 1940, a flock of a dozen was seen in a marshy area a mile or two south of Wonder Lake. In 1939 and 1940 the species was first seen on May 15; in 1941 on May 14.

Bartramia longicauda. Upland Plover. In the nesting season these birds were observed in a number of places. The birds sometimes appeared to be nesting in small colonies. In a broad swale, south of Mile 55 on the highway, at least six or seven pairs were nesting in a small area where the grass and sedge was rather tall and a scattering of tall willows grew. In another area, on June 14, six adults were much concerned over my presence. In some places only a single pair was found nesting. The birds appeared to be nesting in about the same localities each year.

Heteroscelus incanus. Wandering Tattler. The tattler is a common summer resident in McKinley Park. The birds are frequently seen in pairs on the gravel bars, generally along the smaller creeks, at elevations up to 3000 feet or more.

Fig. 58. Nest and eggs of Wandering Tattler; June 13, 1939.

The first set of eggs of the Wandering Tattler known to science was found in the park, on a gravel bar bordering Savage River on July 1, 1923 (O. J. Murie, 1924). On June 13, 1939, I discovered a nest on a narrow gravel bar bordering a small creek which flows into Igloo Creek just north of Sable Mountain. The bird flushed from the nest about six feet from me, alighted 20 feet away, and stood teetering and calling. The nest contained four greenish eggs, speckled with brown.

This nest differed in two particulars from the first one that we discovered in 1923. Its structure was much less elaborate; it consisted of only a few fine twigs laid in a shallow natural depression. It was located in a growth of mountain avens on a high, stable part of the bar, while the one at Savage River was on a part of the gravel bar where no vegetation was present.

Four newly hatched young with their parents were in the vicinity of the nest on June 29. From a distance I marked the spot where the young were feeding, but when I approached they hid and I did not find them. I moved off and tried again, unsuccessfully. The third time I hid nearer the birds and when they became active, I marked the spot where I had last seen movement of one of the young and searched carefully for it. Finally it was found in a cavity under a rock where it was completely hidden. When released, it took refuge in cavities under rocks, except once when it descended about a foot into a ground squirrel hole.

Fig. 59. Young Long-tailed Jaegers; June 28, 1940. Young on left had been running about, foraging, and was placed in nest with recently hatched young.

On June 30, 1939, two other families of tattlers were seen only a half mile apart. One of the young was found with its head and half its body concealed under a rock. When the rock was lifted, the bird held its position; when placed on a rock, it squatted and remained quiet. After being held in the hand for a few minutes and released, it ran along a small stream, part of the time in the shallow water. Both parents scolded while we were with this young one, and when we left, they accompanied us about 200 yards up the bar.

On May 26, 1941, a Wandering Tattler was seen flying back and forth across the sky calling at intervals. It remained in the air three or four minutes before descending to the narrow gravel bar. This was apparently a nuptial flight.

Stercorarius longicaudus. Long-tailed Jaeger. This jaeger nests regularly in the high open passes. There were three or four places where the birds were to be found each year. Between Savage and Sanctuary rivers they were often perched on the edge of the highway, where they had a good view of the slope below them. Only once was a jaeger seen on the water.

Three nests were seen: one contained a single egg; another two eggs; and at another were two young. The nests consisted of natural depressions. Two of the nests were situated on slight rises on dry ground where the vegetation consisted of mountain avens and short grass, and one was on a soft mossy hummock. Whenever the nests were approached, the parents became noisy, hovered above the intruder, and a few times administered a light peck on the head. Once both parents met me 150 yards from their nest and circled and hovered over me as I approached. One of the parents often returned to the nest when I was only five or ten yards away.

On June 28, 1940, a jaeger was brooding a young one about a day or two old. The bird doing the brooding was larger and richer colored than its mate. Once, when the smaller parent brought an insect to the nest, the young one pushed its head out from under the breast of the parent on the nest to receive it. Later, about 30 yards from the nest I saw a second brown downy bird, three or four times as heavy as the one being brooded. It was moving about quite spryly, feeding, and apparently catching insects. The smaller of the parents fed this young one once while I watched.

Three Mew Gulls (*Larus canus*) were attracted by the calling of the jaegers and did not leave until they had been driven away three times by the jaegers.

On June 26, 1941, one of two eggs in another nest was pipped and two days later both eggs had hatched. One of the young, although out of the egg no more than two days, was already travelling in the vicinity of the nest to forage. The other young one had apparently hatched later. It was still in the nest and was somewhat smaller than the one foraging. Brooding obviously begins as soon as the first egg is laid. In 1940 the first bird was seen on May 13; in 1941 on May 12.

Once a jaeger was seen chasing a sparrow, but after the sparrow had dodged three or four times, the jaeger gave up the chase. One of the jaegers was seen feeding on a mouse. On one occasion a jaeger was seen hovering in the air, in the manner of a sparrow hawk, as it watched the ground. After hovering briefly, apparently to watch for prey, it moved 10 or 15 yards and hovered again. This procedure was repeated many times. Several times it swooped near the ground, but no strike was noted.

Larus philadelphia. Bonaparte Gull. One was observed feeding on a small pond near Wonder Lake on May 25, 1940. Another was seen on July 13 at Mile 72.

Surnia ulula. Hawk Owl. Scarce in 1939, 1940, and 1941. A few were seen in the spring of 1941 but none in the two previous years. In 1922 the Hawk Owl was seen several times. Dixon (1938) found these owls plentiful in 1926 but was unable to find a single one in 1932.

Asio flammeus. Short-eared Owl. Sheldon (1930) reported this owl to be plentiful in 1908, and Dixon (1938) reported similarly in 1926 but saw none in 1932. I saw only two in 1939, one in 1940, none in 1941, and one in 1945.

Tachycineta thalassina. Violet-green Swallow. Three were seen flying near cliffs opposite Copper Mountain.

Iridoprocne bicolor. Tree Swallow. A few of these swallows, apparently migrating, were seen flying up Igloo Creek on May 14, 1939.

Pica pica. Magpie. Resident in the park. In the fall it fed mainly on berries, and berries are probably an important item in the winter diet.

Cinclus mexicanus. Dipper. Not observed in the park in the summer, but in winter it was frequently seen on Savage River just above the Canyon and also on Riley Creek. In winter, when feeding, the Dippers often disappear under the ice overhanging the borders of the open water.

Oenanthe oenanthe. Wheatear. A common nesting bird in McKinley Park. After the nesting season, during August, many small scattered flocks move over the gentle slopes in the high passes. On June 21, 1941, a nest was found just inside the opening of a crevice among loose rocks on Polychrome Pass. The opening was just large enough for an entrance. Both parents brought food to the young, which were about two days old. The nest was rather firmly constructed, six inches in diameter and about 2¾ inches from base to top of rim. It was built of roots, twigs, grass stems, mountain sheep hair, and feathers. When I was near the nest, the male sometimes alighted on the slope below me. When I moved out of his view, he almost invariably flew into view and hovered in the air for some time, apparently to watch me.

Anthus spinoletta. Pipit. A common summer resident. In 1922 one was seen at Savage River as late as October 21.

Bombycilla garrula. Bohemian Waxwing. In 1941 the first waxwings were seen at McKinley Park headquarters about the first of April. On April 14 two birds were observed billing. At intervals the birds would feed a little, then resume billing. They were feeding on cottonwood buds and the snow under the tree where they fed was littered with chaff from the buds.

Lanius excubitor. Boreal Shrike. This shrike is a common nester in McKinley Park. On May 13, 1939, on Igloo Creek, a pair had almost completed a nest in the top of a spruce about 30 feet from the ground. Both birds were carrying recently molted ptarmigan feathers to the nest. One of them entered the nest with its load of feathers and later received the feathers brought by its mate. Another nest was found in a spruce top about 20 feet from the ground, and two nests were found in willows, 12 to 15 feet from the ground. One of these was located two or three miles above timber line. All the nests were the usual bulky structures, loosely built of sticks, grass, and feathers.

On May 26, 1939, a shrike chased a Tree Sparrow across a 300-yard river bar, pressing the sparrow so closely that it had to dodge continuously to avoid being captured. The sparrow dropped into some willows when it made the shore, but a few minutes later it was driven out by the shrike and captured three from the ground and brought to earth.

On May 8, 1940, a shrike gave up chasing a junco among some willow brush and started after another which it followed with great persistence. Whenever the junco hid in the willows, the shrike went in after it. Six or seven times the junco was forced to fly forth from the willows. The last time it was almost taken but managed to dodge and fly into the dark recesses of a low bridge. The shrike

followed it under the bridge. Both birds quickly emerged and then the junco disappeared under the bridge a second time, followed closely by the shrike. The shrike came out alone and sat on a willow. After a time it went under the bridge for another try but the junco was apparently safely hidden, for the shrike came out and gave up the search. It appeared that the junco would not have escaped had it not been able to take refuge under the bridge. Shrikes were seen chasing sparrows on two or three other occasions in the open country above timber line.

On June 8 one of two young birds left a nest which I had discovered on May 12. One of the parents snapped its bill like an owl while I was examining the nest. Beneath the nest 23 pellets were found. All contained *Microtus* remains; in addition one contained remains of a beetle and another contained a wasp. So far as could be determined the mice were all immature, not over half grown. The pellets ranged in length from ¾ inch to 1½ inches and averaged about ½ inch in diameter.

Loxia leucoptera. White-winged Crossbill. In late October, 1922, many of these crossbills were seen between park headquarters and Savage River. These birds winter in interior Alaska.

Spizella arborea. Tree Sparrow. Apparently more plentiful than any other sparrow. In May and June it filled the air with song. Some birds were heard singing as late as September 5. The birds were last observed in the fall on October 24 and were first observed in the spring the last week of April. In 1939 each of five nests found in early June contained five eggs.

Passerella iliaca. Fox Sparrow. Found on the slopes bordering Savage Canyon, in the vicinity of thick alder growths. They occurred near the top of Sanctuary Mountain in a similar habitat. They were first observed in the spring on May 13. On September 22 one was found which had recently died.

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THE NESTING OF THE RED-THROATED LOON ON VANCOUVER ISLAND, BRITISH COLUMBIA

By THEED PEARSE

The Red-throated Loon (*Gavia stellata*) has never, to my knowledge, been recorded as breeding on Vancouver Island. Bent (Life Hist. N. Amer. Diving Birds, U. S. Nat. Mus. Bull. 107, 1919:80) gives Graham Island, Queen Charlotte Islands, as the most southerly breeding station on the Pacific coast. Graham Island is at least 400 miles north of the nesting station on Vancouver Island herein described.

These loons nested on a small lake, about 12 acres in extent, some eight miles north of Courtenay, British Columbia, in 1942. This lake, evidently the remnant of a larger body of water, is deep, with a shore line that falls off quickly. All round there is a thick covering of bush, hardhack chiefly, which extends back several yards. Beyond is a more stunted growth of the same shrubs, scattered pines, alders and crab trees, which in places is almost impenetrable. In the center of the lake is a small island, an acre or so in area, with several pines and the same scrubby growth. I have not been on this island but have been told there is practically no firm land there. Like the shore-line it consists of quaking peat moss that is very tricky to get about on owing to the unseen potholes.

It was on April 22 that I first saw the Red-throated Loons at the lake. They may have been there in previous years, as I had not looked over the lake for several years, and then only in the winter. On this date the two loons were merely swimming around, with no suggestion of nesting.

My next visit was on May 8; one bird was seen swimming near the north point of the island, where there is a good growth of marsh grass and rushes; its actions suggested it had some interest in this particular area. I was able to make use of an old upturned fir stub as a blind just opposite this point, only about 100 yards away. After a little time the bird moved toward the point, at first in a hesitating manner, but all the time drawing nearer. When it reached the point, it continued swimming, and disappeared behind some tufts of grass or rushes. I then saw it clambering up in an open space between these tufts where it stood, and below it the outline of the nest was plainly visible. I watched the bird arrange the eggs and adjust itself on the nest. The loon sat facing outward, all the time moving its head to look around. While I watched, the other bird appeared, swimming around but never approaching the nest.

My next visit was on May 16. A loon was on the nest but it slipped off and dived, reappearing well out in the lake; it gradually worked back toward the nest and then dived to reappear on the far side of the point where it stayed facing us and would not go onto the nest.

On June 2, an adult, presumably the female, was swimming on the lake followed by two young. The young swam behind or at her side and did not attempt to get on their mother's back. They looked about a week old and were very dark in color. While watching the family party, the other bird appeared with a fish dangling from the beak; it gradually worked up to the others by a series of dives. When it eventually came up to them, none of them seemed at all interested; the fish looked much too large to be fed to the young as it was. The adult then mauled the fish in the water in the usual loon fashion, the others swimming away. Shortly, they all joined up and the fish had gone. The whole party then stayed together a short time, whereupon the female with the young swam out of sight into the surrounding cover. I did not see any attempt by the female to feed the young nor did they appear to be seeking food while swimming.

On June 21 no loons were to be seen on the lake. On June 29 the pair was present but there was no sign of the young. Because of the absence of young on these last dates and because I had seen a pair of Red-throated Loons on a small lake three miles away, where I had never seen any before, I concluded that the pair had lost their young. This was my last visit to the lake in 1942. I noticed, then, that the birds seemed to be losing the beautiful grey on the back which was getting dingy; the red throat was still prominent.

Fig. 60. Lake near Courtenay, Vancouver Island, British Columbia, where Red-throated Loons nested in 1942 and 1943. Island marked by near row of conifers; nest situated at right tip of island.

In 1943 my first visit to the lake was on May 15, and a loon was on its nest in the same place. The other bird was not seen. It was noticeable, particularly on this occasion, that the sitting bird blended into the surrounding foliage, with the neck looking like a dark, upright stake. A week later the bird was sitting very closely; it did not leave when I moved about within full sight. Although the day was generally cloudy and not hot, the loon seemed to suffer from the heat when the sun came out and would pant and hold the wings away from the body.

On June 5 the nest appeared flattened and more exposed. At first, no birds were visible, then there was a roar of wings which announced the arrival of a loon from the direction of the sea or the other lake (the volume of sound was much greater than a duck volplaning). As the bird approached the surface of the water, it swung around providing a full view of the feet spread out to break the impact. It was carrying a fish about six inches long. The bird came to rest close to where I was standing and then became hidden by the intervening growth; about ten minutes later it swam out and washed vigorously, turning completely on the back so that both feet were visible. After about ten minutes of preening, it disappeared into the same place and next appeared swimming along the shore-line followed by one small young, which I took to be not more than a week old. The youngster was quite lively, swimming about and diving. Once it appeared to dive under the parent to come up on the opposite side. The female kept close by all the time. While watching them a female Wood Duck (*Aix sponsa*) flew over, calling loudly, and appeared to make an attack on the loon. In any event, the loon was apprehensive of attack and dived; she shortly reappeared at the same place, but without the youngster which, presumably, had taken cover at the edge of the lake. Neither on this nor on any occasion when the old birds and young were together did I hear any call from either, but, as the parent went directly to the spot where the youngster was hidden, she must either have called it or have known where it was hiding; the spot was only 100 yards or so from the nest. Only one parent bird was seen on this occasion.

On June 29, after waiting half an hour, the two adults appeared and, as they swam along the shore of the island, the leading bird, which looked to be the larger, called two or three times, a low drawn-out single note *meou*. One bird displayed: with neck kinked it "ran" over the water, flapping its wings, then returned to the other bird. Shortly after one gave a goose-like *wah-kee*, repeated; this was quite different from the notes of either the Common Loon (*Gavia immer*) or the Arctic Loon (*Gavia arctica*). Later on the young bird could be seen, with its parents, off the other end of the island. It appeared to be about half their size and was floating with its head tucked into the feathers of the back. When I came into view, both adults kept close to the youngster but, when I stood still, they seemed to regain confidence and allowed the youngster to drift away.

In 1944 my first visit to the lake was on April 28. Two adults were swimming around all the time throughout the half hour I was there. On this occasion, the bird I took to be the female uttered a note, *chook-chook*, the other bird displayed once, stretching out the neck with the beak pointed upward, thus bringing very much into prominence the brilliant red patch on the throat. The displaying bird kept this position for some seconds without any other movement and then resumed the ordinary position.

On June 19 only one bird was seen. I do not think they reared young in this season, although they may have nested.

In 1945, on my two visits to the lake, the end of May and in June, there was no sign of the loons; on the second occasion there was a pair of Common Loons. The lake appeared higher this year and, possibly, the limited area available for a nesting site was flooded. I heard, too, that boys had been fishing there.

In 1946 on April 19 there were no loons on the lake. On May 29 two birds were seen near the old nesting site, but they appeared to be just idling, and on June 13 there was no sign of them.

Comox, Vancouver Island, British Columbia, May 13, 1946.

THE CALIFORNIA QUAIL OF CENTRAL BAJA CALIFORNIA

By A. J. VAN ROSSEM

In the time which has elapsed since Grinnell's "Distributional Summation of the Ornithology of Lower California" was published in 1928, a considerable amount of exploratory work has been accomplished. More adequate series of specimens have been obtained in the San Pedro Mártir and Cape regions. Of more importance is the fact that collections from the little-known middle parts of the peninsula demonstrate or indicate, as the case may be, that several definable races of birds additional to those already known occupy that area. It follows as a corollary that the abruptly distinct character of the Cape region avifauna is further emphasized. In other words, a number of differentiates, which even as late as 1928 were presumed on the then existing evidence to penetrate for varying distances northward, are now shown to be sharply restricted in range.

A case in point is that of the California Quail, *Lophortyx californica*. Grinnell assumed that the range of the Cape form, *achrustera*, extended northward to latitude 30°, but he listed specimens of *achrustera* examined by him from only three places in mid-peninsula in addition to those from La Paz, a locality at which the characters of *achrustera* are not altogether constant. In the present study I have examined 157 specimens of the California Quail from Baja California, in addition to the original series of *canfieldae* from Owens Valley in east-central California and a large series of *L. c. californica* from the general range of that race. The Dickey Collection contains 16 specimens from various mid-peninsular localities and 14 *achrustera* from the Cape region. The collections in the Museum of Vertebrate Zoology have furnished 16 from mid-peninsula, 26 *achrustera*, and a series of 74 *plumbea*. This material reveals that the greater part of the peninsula of Baja California, more specifically the great area between the Cape region and latitude 30° is inhabited by a distinct race which is described below.

Lophortyx californica decolorata, new subspecies
Grinnell California Quail

Type.—Adult male, no. 30046 Dickey Collection, taken at Bahía Concepción, Gulf coast of Baja California, México, March 26, 1930, by A. J. van Rossem.

Subspecific characters.—The most uniformly grayish race of *Lophortyx californica*, characterized by the almost complete obsolescence of olivaceous tones dorsally and of brown tones on sides and flanks. Resembles *Lophortyx californica achrustera* of the Cape region and *Lophortyx californica canfieldae* of east-central California in pallor of coloration but differs in the obsolescence of olive and brownish tones as stated above and by the even paler yellow of the pectoral region of the males. Comparison with the dark *L. c. plumbea* to the north is not essential.

Range.—Baja California from about latitude 25° to latitude 30°.

As was observed in the original description of *canfieldae* (Auk, 56, 1939:68), there is little difference between that race and *achrustera*, save that *canfieldae* is a little lighter gray on the chest, a little less olivaceous dorsally, and has a smaller bill. Were the ranges contiguous, it is debatable whether nomenclatural separation of the two populations would prove practicable. They are separated, though, by nearly a thousand miles of territory and by the interposition of three other races. This similarity between *canfieldae* and *achrustera* is worth stressing in view of the diverse nature of the climates of the respective habitats—a high Lower Sonoran situation with marked seasonal and daily temperature ranges, and an equable Arid Tropical environment. The annual rainfall

is roughly equal in the two areas, although coming at different seasons, but this does not necessarily imply equality in mean annual relative humidity.

La Paz, the type locality of *achrustera*, has been a center of extensive collecting. This, in some ways, is unfortunate since its location at the northern edge of the Cape region may produce specimens not expressive of the best development of Cape races. They may show varying degrees of tendency toward the characters of mid-peninsular

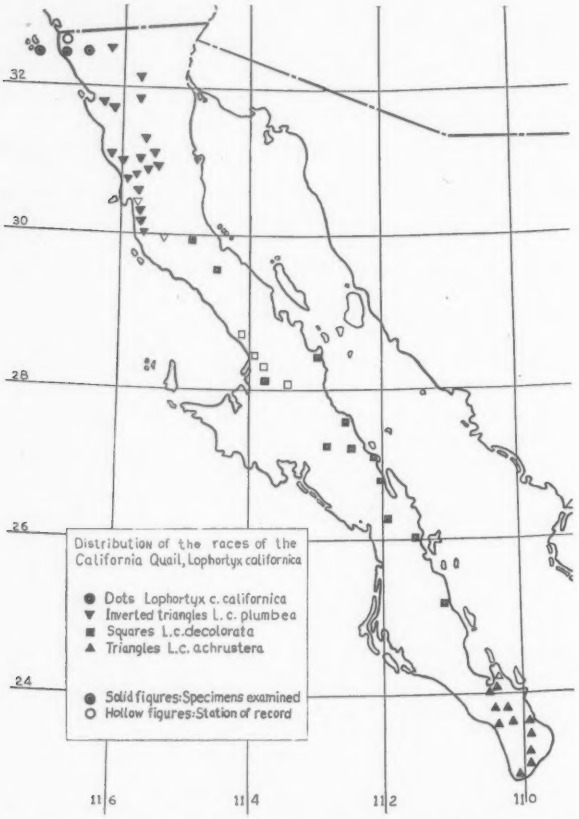

Fig. 61. Distribution of the races of *Lophortyx californica* in Baja California.

populations. In the present instance four quail from La Paz in the Dickey Collection average closer to *decolorata*. However, 15 in the Museum of Vertebrate Zoology are unmistakably closer to specimens from other southern points and there is little doubt that the name *achrustera* applies in that direction. A similar difficulty has been encountered in a recent review of the Baja California forms of the Black-throated Sparrow (Trans. San Diego Soc. Nat. Hist., 10, 1945:239), the type locality of one of which is La Paz.

Specimens examined.—*L. c. achrustera*, 40: La Paz and vicinity, 19; Miraflores, 4; Cape San Lucas, 1; Agua Caliente, 1; Santa Anita, 1; Todos Santos, 2; San José del Cabo, 5; El Oro, 1; Triunfo, 1. *L. c. decolorata*, 32: Rancho Mesquital, 2; San Ignacio, 7; 25 miles E San Ignacio, 1; Santa Ana Bay, 6; Comondú, 1; Cataviña, 1; San Augustín, 2; Santa Teresa Bay, 4; Loreto, 1; San Bruno, 1; Concepción Bay, 5; Dolores Bay, 1. *L. c. plumbea*, 74: 10 mi. E El Rosario, 1; Misión Santa Maria, 1; San Fernando, 3; North end Nachogüero Valley, 6; Rancho Ojos Negros, 1; 20 mi. E Ensenada, 1; Sierra Juárez [El Rayo and Laguna Hanson], 12; Valle de la Trinidad, 6; San José, 4; Vallecitos, 2; San Felipe, 2; El Cajón Cañon, 12; Valladares, 1; Colnett, 1; San Telmo, 1; Santo Domingo, 4; San Ramón, 2; Arroyo Nueva York, 5; La Grulla, 7; Socorro, 1. *L. c. californica*, 11 from Baja California: Los Coronados Islands, 3; South end Valle de las Palmas, 6; 5 mi. S Mon. 258, 2 [also large series from the general range]. *L. c. canfieldae*, 16 from Owens Valley, California.

Dickey Collections, University of California at Los Angeles, May 27, 1946.

THE SCARCITY OF THE BLACK-FOOTED ALBATROSS IN PARTS OF ITS KNOWN RANGE

By WILLIAM C. STARRETT and KEITH L. DIXON

In 1945 and early 1946 the writers traveled over various parts of the North Pacific Ocean from Mexico north to within 800 miles of Kodiak Island, west to Japan and the China Sea, and south to the Marshall and Caroline islands, covering over 35,000 miles. We were together the greater part of the time, but returned to the United States independently.

The voyages were primarily within the area defined by Bent (1922:5) and Peters (1931:43) as the range of the Black-footed Albatross (*Diomedea nigripes*). Bent describes this range as "North Pacific Ocean, mainly north of the Tropic of Cancer. East to the coast of North America, from the Alaska Peninsula southward to Lower California (San Quentin Bay). South nearly or quite to the Equator. West to the Formosa Channel, Japan (Yezzo), and Kurile Islands. North to the Aleutian Islands and southern Bering Sea (Bristol Bay, Alaska) in summer." Breeds on "Laysan, Gaspar Rico, Midway, Marshall, Volcano and Bonin Islands . . . . Formerly on Marcus Island." The accompanying map (fig. 62) indicates the various trips taken within this range and the localities where albatrosses were noted.

In April, 1945, we sailed from Panamá up the coast of Mexico en route to San Diego. No albatrosses were observed until mid-morning on April 11, when two were sighted following the ship, some 15 miles off the coast of Lower California at 26° 30′ north latitude. By mid-afternoon only one bird was present. None was seen the following day between 30° north latitude and San Diego. These observations agree in general with the findings of Grinnell (1928:64) and Miller (1936:11; 1940:229) with respect to the range and limited numbers of the Black-footed Albatross along this coastline during the spring months.

Our travels along the coast of southern California were made at night, and the Black-footed Albatross was not seen again until we were 150 miles offshore on April 21, 1945. Albatrosses were sighted daily thereafter, until within 200 miles of the Hawaiian Islands. Ordinarily only one or two were present at sunrise, their numbers increasing to as many as twelve by nightfall. None was in evidence off Molokai and Oahu as Pearl Harbor was approached on the morning of April 28. It is of interest to note that earlier in the following spring (March, 1946) this species was present in consistently greater numbers over essentially the same route.

In the last week in May, a voyage was made in a large convoy from Pearl Harbor to Guam via Eniwetok in the Marshalls. Throughout this voyage no albatrosses were seen. It is difficult to explain the absence of the Black-footed Albatross in the area southwest of Hawaii, since Cogswell (1946:48), while travelling the same route a month earlier, found this species south to about 18° north latitude in the vicinity of Johnston Island. Perhaps this bird, which is ordinarily a ship follower, found the convoy unattractive. Subsequent voyages were made singly or in the company of but few ships.

Using the Marianas as a base, we made voyages to the various island groups of the western Pacific from June, 1945, until February, 1946. Several days were spent in the vicinity of Iwo Jima, Volcano Islands, in August. The Ryukyus were visited in June and again in August. In September and October two trips were made between Okinawa, Ryukyus, and Yokohama, Japan, and one (September 17) to within 250 miles of For-

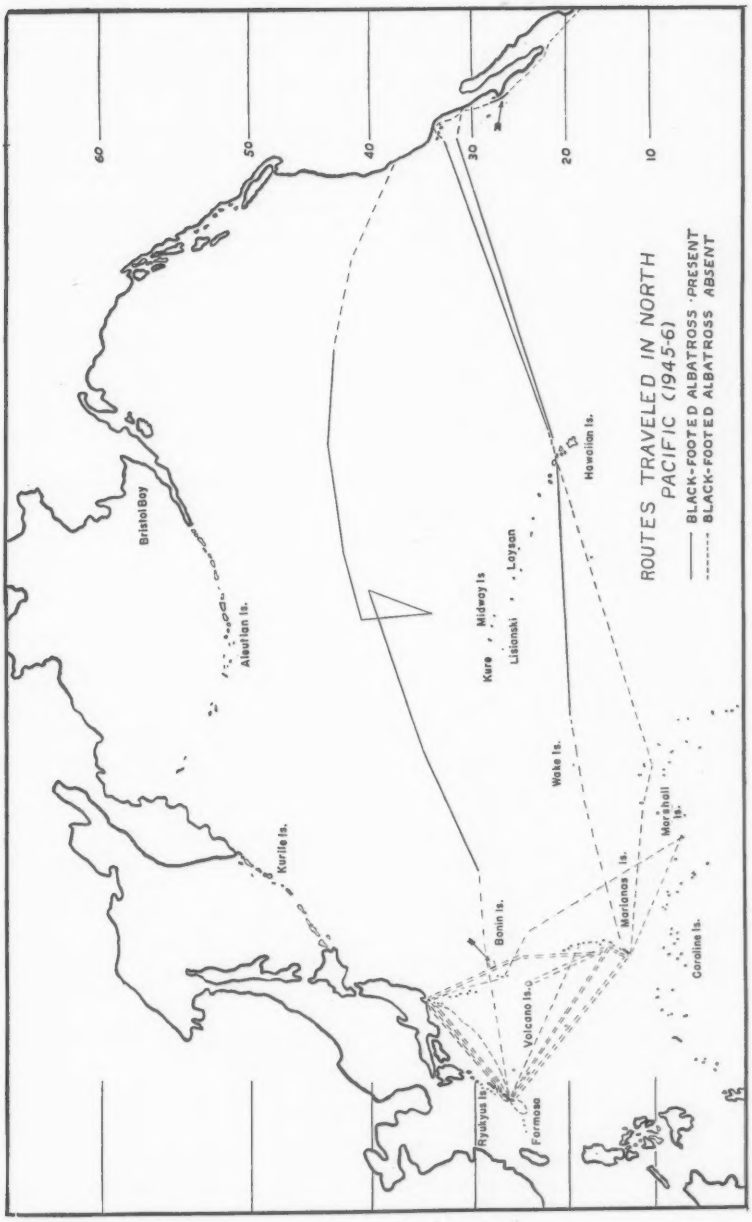

Fig. 62. Map of north Pacific Ocean showing areas where Black-footed Albatrosses were observed.

mosa. Throughout these travels Black-footed Albatrosses were not seen, although according to Miller (1940:229), this species is most widely dispersed over the North Pacific Ocean during the summer. Okada (1938:78) includes the Ryukyus in describing the range of this albatross; however, during the summer and fall months and again in February, its presence was not noted in these waters. Further, La Touche (1934:430) mentions observing it in the China Seas in winter and spring, in an area which lies immediately to the westward of the Ryukyus. Swinhoe (1863:431) reported the Black-footed Albatross as common throughout the year in the Formosa Channel.

In the last week of October, 1945, Starrett started a voyage from Okinawa to California. Although the area immediately north of the Bonin Islands was traversed, Black-footed Albatrosses were not sighted until October 31, when a single individual was observed 300 miles north of Marcus Island. Albatrosses were present in small numbers on subsequent days, increasing to 40 on November 4, some 480 miles north of Kure. On November 5, 720 miles northeast of this island, 60 were accompanying the ship. The following day, 20 were sighted on one occasion 700 miles north of Midway. Foggy weather interfered with observations on November 7, and the following day, with conditions but little better, 5 were seen about 800 miles south of Kodiak Island. On November 9, the last day observations were made, 15 were seen 1,100 miles west of Eureka, California.

Concurrently Dixon made a voyage from Okinawa to Japan and southward past the Bonin Islands. Black-footed Albatrosses were not seen in this vicinity, although on the afore-mentioned journey they were found several hundred miles to the eastward. On a visit to the Bonin Islands and Japan in late December this species was not seen, but on January 9, two were observed in the wake of the ship 100 miles northeast of the Bonins at 28° 20′ north latitude.

On a great circle course from Guam to Oahu, the Black-footed Albatross was not detected until the evening of March 8, 1946, at 19° 52′ north latitude, 371 miles east of Wake Island. These birds were seldom out of sight thereafter until Pearl Harbor was reached. Their numbers increased slowly. By March 11, 15 were with the ships and the following evening, 295 miles south of Lisianski, 26 were counted. At sunset on March 13, 271 miles south of Laysan, 46 were present. This total decreased sharply in the next 24 hours; it did not exceed 5 in the remainder of this journey.

Few Black-footed Albatrosses were sighted until the fourth day out of Pearl Harbor. However, on this date (March 26, 1946), 55 were counted at sunset, 720 miles northeast of Hawaii. The ensuing day this count decreased averaging 18 each evening thereafter until near San Diego.

We have endeavored to indicate the relative abundance of the Black-footed Albatross in the central Pacific in contrast to its scarcity in the western portion of its range. Information is needed concerning the present status of this species on the islands south of Japan where it has been known to nest. Fisher and Baldwin (1946:5) determined that this species on Midway was not seriously reduced as a result of war activities. They also cited banding records to show that this albatross ranges from Midway to the American and Japanese coasts. We repeatedly found it absent from the waters in the vicinity of the Volcano and Bonin islands. Our observations at sea, together with the banding returns, lead us to suggest that the present breeding range probably is restricted to the islands of the central North Pacific. Therefore, it appears to us that the Black-footed Albatross is in greater danger as a species than is generally realized. Perhaps other workers can supply further observations from these western islands and thereby more clearly define the present status of this species.

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Ames, Iowa, and La Mesa, California, June 28, 1946.

THE WINTER BIRDS OF ADAK, ALASKA

By RICHARD D. TABER

Adak, one of the Aleutian Islands, is situated about two-thirds of the way westward along the chain which these islands form. It is roughly 30 miles long by 20 wide, but of an extremely irregular shape, with many fjords, bays and lagoons; the highest peak, Mount Moffett, is situated at the northern end of the island and is 3900 feet in elevation. The island seems wholly volcanic in origin, with bare rock on the higher ridges. The lower parts are rolling, with a low, dense tundra growth and many ponds. There are no trees and the tallest growth is the strand wheat along the shore, which forms dense mats when dead. The winter weather is not extremely cold, the temperature seldom falling below zero, but it is extremely changeable and the sudden wind, or williwaw, sometimes blows more than 80 miles an hour.

In early times, to judge by the remains in the shell-ridges, the island supported a considerable population of aboriginal Aleuts. The general process of race decline, which has operated throughout the Aleutians since the days of Russian exploration, has, however, caused the natives to desert vast stretches of their original territory and Adak

Fig. 63. Map of north end of Adak Island, Alaska.

was apparently so abandoned. For some time before the war, the total population, to the best of my knowledge, consisted of a single fox trapper; the little blue foxes of that day are still occasionally seen but their numbers have been kept down by the poaching of service personnel .

The literature concerning the bird life of the Aleutians is extremely scanty, especially with reference to winter. Turner spent considerable time on Attu; his report (Contr. Nat. Hist. Alaska, Signal Service, U. S. Army, Washington, D.C.) remains as the best source of information, even though it was published in 1886. The dearth of winter observations is not surprising when it is remembered that in Aleutian waters winter travel was almost non-existent before the war.

During the war, of course, there has been a great deal of traffic over and among

these islands, but I believe the long-range effects upon the bird population to have been small. The spread of blue foxes might well be of greater consequence than the location of occasional military bases.

Since certain islands, including Adak, are to be manned permanently by military personnel, it seems likely that more copious observations on natural history will be forthcoming. It is with this in mind that certain information is now offered which may afford a basis for comparisons in the future.

From November 18, 1945, to January 20, 1946, about 25 days were spent in observing the bird life of the northern tip of the island (fig. 63). Habitats involved were sandy and cobbled ocean beaches, offshore rocks, a sheltered salt lagoon (Clam Lagoon), a large fresh-water lake (Andrew Lagoon) without marshy banks, and areas of grassy strand, marsh and tundra. Although practically all the small upland ponds froze over early in the period of observation, the surface of Andrew Lagoon was only about one-third frozen by January 20, and Clam Lagoon remained unfrozen. It is thought that both lagoons may freeze solid later in the year and so be unavailable to water birds.

Colymbus grisegena. Red-necked Grebe. One flock of about 50 appeared on November 25, whereas only 12 had been noted previously. These then disappeared, except for a few stragglers; again, about December 16, another group of the same size appeared and was gone by December 25. Thereafter only two singles and a pair were seen. These grebes were rarely noted on the salt lagoon; they preferred the open waters of the Bering Sea, diving actively near shore.

Colymbus auritus. Horned Grebe. These grebes were present in small numbers on salt lagoons throughout the period of observation. On November 22, 4 were seen on Clam Lagoon and on January 9, 3 were seen on Shagak Bay. The birds stayed well out from shore whenever they saw the observer; this and their small size made observation difficult. Turner (*op. cit.*: 115) did not find this bird west of Unalaska. He states that it prefers fresh water "and only resorts to the bays and estuaries when the fresh water is frozen." This was not true on Adak where these birds were observed on the salt lagoon during a period when there was plenty of open fresh water available. They were never, in fact, seen on fresh water.

Phalacrocorax pelagicus. Pelagic Cormorant. *Phalacrocorax urile*. Red-faced Cormorant. These two cormorants were present continually, both on the open sea and the sheltered lagoon, but never on fresh water. No attempt was made to census them.

Philacte canagica. Emperor Goose. These birds preferred the salt lagoons, a flock of 204 frequenting Shagak Bay and one of 176 stayed at Clam Lagoon. They fed on the shores and sand-bars, sometimes working up into the tall grass of the hillsides. In addition to these large flocks, certain small groups remained separate, for example one of 3 adults and 5 immatures and another of 2 adults and 3 immatures on Clam Lagoon and one of 4 adults in Kuluk Bay (Bering Sea). Small numbers were occasionally noted on the fresh water of Andrew Lagoon; the largest flock noted there consisted of 16 adults and 3 immatures and was seen during a blizzard on January 20. Turner characterizes this bird as a wary frequenter of exposed rocks, but near Clam Lagoon, especially in stormy weather, they could be closely approached by car; occasionally I had to stop to let a procession waddle across the road. Although they are still shy of a man afoot, it would seem that continued protection from poaching will render them increasingly tame.

Anas platyrhynchos. Mallard. A few scattered birds frequented low-lying ponds early in the winter but when those froze over on December 11, 1945, they concentrated, not on the unfrozen fresh-water lake, but near a swampy portion of the salt lagoon. Later a male was seen on the lake, and a female, pursued by a shrike, was observed to light in a small stream. But the concentration of this species was on Clam Lagoon, where, on January 12, 1946, there were 11 males and 5 females.

Anas acuta. Pintail. Except for one female noted on a small, partially-frozen pond (Mitt Lake) on January 1, 1946, the whole Pintail population frequented Clam Lagoon; it consisted of a flock of 48. According to Clark, Collins and Walker (The Aleutian Islands, etc., Smithsonian Inst. War-Background Studies No. 21, 1945), this bird had not been thought to winter in the Aleutians. My observation led me to believe that Pintails would leave Adak only if the salt lagoons froze over.

Anas crecca. European Teal. A flock of 47 was present on Clam Lagoon all through the period of observation, with an apparently equal division of sexes, although the birds were too flighty for accurate differentiation. On December 16, one was seen with a raft of Greater Scaup Ducks on Andrew Lagoon, the only record on fresh water.

Chaulelasmus streperus. Gadwall. Like the Mallards, the Gadwalls were present all during the winter and frequented fresh-water ponds until they froze. They then took to the salt lagoon, never being seen on the lake. The flock consisted of 5 males and 4 females. Turner mentions these birds as being frequently associated with Pintails. On Adak they were rarely seen together, and then only when scattered while feeding. Ordinarily they rafted quite apart from each other.

Nyroca marila. Greater Scaup Duck. Up until January 19, 1945, a total of 135 scaups was present on Andrew Lagoon; after that date Andrew Lagoon was partly frozen and about 45 birds moved to Clam Lagoon. The total population consisted of 66 males and 69 females; 22 of the males were immature. On December 4, a mature male was found dead on the west shore of Andrew Lagoon. The breast was bare of feathers for an area of two square inches on the midline just posterior to the black feathers of the fore-breast. A thorough macroscopic examination revealed two massive tapeworm infestations as the probable cause of death. The bird, although not fat, was apparently in good condition otherwise and it is considered probable that the parasites lowered its vitality sufficiently to permit it to freeze to death; the gizzard was full of aquatic weeds and the intestines contained partly digested matter.

Glaucionetta clangula. Common Golden-eye. One to three birds occasionally were seen on Andrew Lagoon (fresh) or the calmer waters of the Bering Sea, near shore, but the main flock was present on Clam Lagoon (salt) throughout the period of study.

Charitonetta albeola. Buffle-head Duck. Except for one associated with a raft of Greater Scaup on Andrew Lagoon (November 21, 1945), these birds were observed only on the salt lagoon, usually in groups of from 2 to 8. When both sexes were present, the numbers were about equal; the birds were often seen in pairs, but small groups of what appeared to be females and young were also seen. The birds were present in stable numbers all through the period of study and on January 13 an analysis of the population gave: 12 pairs plus two groups of 1 female and 3 immatures, totalling 32 birds.

Clangula hyemalis. Old-squaw Duck. These birds were present both on Clam Lagoon and on the Bering Sea, near shore, all through the winter, but their restlessness precluded gathering of accurate sex-proportion data. They were on the go continually, either diving, chasing one another, or flying erratically from place to place. Up until December 9, 1945, the Clam Lagoon population was about 14; on that date over 75 birds appeared on the lagoon, but they were not seen subsequently. The residual population gradually increased to about 25 on December 31, 1945, and was down to about 10 on January 13, 1946. A few observations suggest that the males are more likely to frequent the open sea than the females, which are often found on the sheltered lagoon.

Histrionicus histrionicus. Harlequin Duck. These birds were common, frequenting the breakers and rocks of the Bering Sea and the shore of Clam Lagoon. The number in a flock ordinarily ranged from 2 to 20; 70 once were seen together. The immature male differs from the adult in having no white back markings nor red side patches. The sex ratios differed significantly between the Bering Sea and Clam Lagoon, and this difference was obvious all through winter; the males were preponderant in the open sea and the females in the lagoon.

Somateria mollissima v-nigra. Pacific Eider. Although the easily recognized adult males offered no problem, considerable difficulty was experienced in differentiating between the females of this and those of other kinds of eiders and between adult and immature females. No adequate reference works were available, and notes taken on the spot indicate that the adult female has a more richly brown head than described in Kortright (Ducks, Geese, Swans North America, 1942) or than observed in the museum specimens available. Assuming that this is so, 8 males and 11 females used Clam Lagoon and the stretch of the Bering Sea under observation all through the study; they were never all together, but usually appeared in groups of 4 to 6. On Clam Lagoon they either loafed or splashed energetically, causing a considerable commotion, while at sea they fed about the offshore rocks. On December 23, 1945, a tight raft of 36 was sighted for the first time on the Bering Sea, near shore. It consisted of 23 males and 13 females and was not seen subsequently. Lumping the "residents" and "transients" yields totals of 31 males and 24 females. There thus is support for Turner's statement that the males are more numerous than the females at all seasons.

Polysticta stelleri. Steller Eider. A single male was first observed feeding with a flock of Harlequin Ducks around offshore rocks in the Bering Sea on December 23. Subsequently, a single male, presumably the same one, was noted on Clam Lagoon on January 4, 1946, still associated with Harlequins.

Melanitta fusca. White-winged Scoter. Nine or ten birds were present on Clam Lagoon from December 9 to December 23, 1945, when 32 were seen. These apparently moved on, for only one was observed on January 13, 1946, and none thereafter.

Melanitta perspicillata. Surf Scoter. A single male, associated with Black and White-winged scoters, was seen on Clam Lagoon on December 14, 16, and 23, 1945.

Oidemia nigra. Black Scoter. This was the most common bird of the area; it was seen in groups

of 2 to 70 on the salt lagoon and the open sea. On the lagoon a marked dichotomy of behavior was noted; the small groups loafing or feeding desultorily near shore were preponderantly males whereas the tight rafts feeding energetically on small fish and shell-fish in the channel and over the sandbanks of the lagoon's mouth were preponderantly females. Turner states: "They are not gregarious, rarely more than three or four together, and often only solitary." This was certainly not true on Adak, where groups of a dozen were seen commonly and one dense raft of 70 was noted.

Mergus serrator. Red-breasted Merganser. Never seen on the open sea and only occasionally on fresh water. These birds congregated beside the swift current near the mouth of Clam Lagoon. There they swam with outstretched necks and heads immersed, diving frequently. The first flock observed on December 9, 1945, consisted of 1 male and 18 females and immatures, and the last flock closely observed on January 13, 1946, contained 13 males and 35 females and immatures.

Haliaeetus leucocephalus. Bald Eagle. Present through the winter. Adults were often noted sitting on the tundra-covered offshore rocks. Adults and immatures apparently secured much of their food from the garbage dumps. On November 19, 1945, three immatures and one adult were harassing a number of gulls clustered about some floating garbage. When the gulls had dispersed, one immature glided slowly to the surface and tried without success to grasp a floating piece in its talons.

Falco columbarius. Pigeon Hawk. On December 9, 1945, a single individual was observed for over half an hour as it flew or perched on various wires. The characteristic broad tail-bands were plainly seen. This appears to be the first record west of Unalaska.

Falco peregrinus. Duck Hawk. Single birds, apparently two different individuals, were seen on November 25 and December 16, 1945, and January 13 and 27, 1946. The lighter colored bird noted on the first two dates was seen to stoop twice unsuccessfully at a male Pacific Eider. The eider, which was squatting on a rock in Clam Lagoon, simply crouched lower when the hawk stooped and the stoop was checked ten or fifteen feet above the bird's back. The second, darker individual was also seen in the vicinity of Clam Lagoon, speeding low over the water, but close observation was impossible.

Haematopus bachmanii. Black Oyster-catcher. Only two observations, apparently of the same individual, were made: December 23 and 31, 1945. Both times the bird was in flight along the cobbled shore of the Bering Sea, near Clam Lagoon. It was strangely rare for a reputedly common bird.

Erolia ptilocnemis. Rock Sandpiper. Scattered pairs of remarkably tame birds frequented the tundra hillsides around Sweeper's Cove (Naval Base) until about the first of November. Whether they then left the island or changed to a seashore habitat in some other part of the island I do not know, but they were not seen thereafter.

Erolia alpina. Red-backed Sandpiper. First noted on December 30, 1945, when a pair was feeding along the rocky shore of Clam Lagoon. Subsequently, on January 6, 1946, 4 were noted at the roadside on Zeto Point, sheltering themselves from a full gale in small irregularities of the ground; all the while they moved about actively. On January 9, 1946, 4 were seen feeding on the rocks bordering Shagak Bay, on the opposite side of the island. The last observation was of two birds, on January 20, 1946, on Clam Lagoon. Turner did not think that this species occurred out on the Aleutian chain and Clark mentions it as occurring only on Unimak.

Larus hyperboreus. Glaucous Gull. Birds appearing both white (second-year) and buffy (first-year), were occasionally noted among the vastly greater numbers of Glaucous-winged and Herring gulls. The bills were yellow with black tips, facilitating identification.

Larus glaucescens. Glaucous-winged Gull. Several hundred of these gulls were observed regularly, loafing on Andrew Lagoon. They also congregated around the garbage dump, and another source of food was indicated, when, on Clam Lagoon, one dove heavily on an emerging Harlequin and bluffed it into dropping its mouthful. Scattered gulls loitered around feeding Harlequins, Buffle-heads and scoters, robbing them just seldom enough to keep them from being frightened away.

Larus argentatus. Herring Gull. These gulls apparently preferred salt water to fresh water, and numbers of them were commonly seen feeding in the surf. One such group consisted of 6 adults and 10 immatures. However, the birds considered adult were dark-headed, and probably were in fact subadult.

Larus canus. Mew Gull. On January 12, 1946, 4 individuals, 2 adults and 2 immatures, were seen harassing a group of Buffle-heads on Clam Lagoon. One adult pursued a male Buffle-head through the air on a circumscribed course for fully three minutes, without forcing it to drop its food, but generally their efforts were more successful.

Rissa tridactyla. Black-legged Kittiwake. On November 18, 1945, a single immature bird was seen flying near Gannet Rocks. The bill was light yellow-green, the feet and wing-tips black and there were irregular dark markings behind and below the eye. It was not seen subsequently.

Corvus corax. Holarctic Raven. These birds are common around the military installations, especially where there is garbage to be stolen. They become bold in this pursuit, even entering the open door of a garbage shed, but, while bold, they are also cautious, and although many men and dogs

attempted to capture ravens, none was ever taken. These birds are great acrobats. One was observed hanging upside down from a fence wire, apparently playing, for it flapped briskly off afterward. My notes of November 21, 1945, are quoted: "When the car approached, a raven which had been standing on the tundra, rose in alarm. A chunk of moss adhered to one foot. The raven remained soaring in the immediate neighborhood, engrossed in freeing itself from the moss. First, it picked a piece out with its beak. Then it gave a croak . . . and another raven approached and tried to snatch the moss away, apparently with its feet. No go. Shortly thereafter the moss came loose and both flew off together."

Troglodytes troglodytes. Winter Wren. On January 6 and 13, one and three individuals, respectively, were seen in the rank matted strand wheat between Andrew Lagoon and the sea. These birds are very secretive and were not easily observed.

Lanius excubitor. Boreal Shrike. On January 9, 1946, a female Mallard was seen flying along a small stream near Shagak Bay; a shrike struck at her back twice as she flew. The Mallard lit in the water and the shrike hovered characteristically over her for a moment and then lit on a barbed-wire fence. The ground was snow covered at this time, leading to the supposition that this shrike was extremely hard pressed for food.

Leucosticte tephrocotis. Rosy Finch. These birds were present throughout the winter, feeding on the heads of composites which projected above the snow. Even after the heaviest snowstorms, some dry vegetation always seemed to be exposed. The Rosy Finch flocks varied from 6 to about 30 individuals.

Acanthis, sp. Redpoll. On December 16, 1945, a single individual was seen feeding near a flock of Rosy Finches. What was apparently the same individual was observed at the same spot, above the shore of Andrew Lagoon, on December 30, 1945.

Melospiza melodia. Song Sparrow. These sparrows were present throughout my stay. In the early winter they ranged up the hillsides a considerable distance from the shore, but as the snowline crept down, they became more restricted until finally they were found almost entirely along the shore in the driftwood and rank matted grasses.

Plectrophenax nivalis. Snow Bunting. These conspicuous birds were first observed on January 19, 1946, when 3 were noted. Their arrival coincided with a rather severe storm. On the following day, a flock of 24 was closely observed; it consisted of 13 males and 11 females.

Table 1

Summary of sex ratios

Species	Total ♂♂	Total ♀♀	Ratio ♂♂:♀♀	Species	Total ♂♂	Total ♀♀	Ratio ♂♂:♀♀
Mallard	11	5	220:100	Buffle-head Duck	12	14	86:100
Pintail	28	16	175:100	Pacific Eider	31	24	129:100
European Teal	23	24	96:100	White-winged Scoter	33	15	220:100
Greater Scaup Duck	62	69	90:100	Black Scoter	91	70	130:100
Harlequin Duck	21	11	190:100 (Bering Sea)	Red-breasted Merganser	29	109	27:100
	28	28	100:100 (Clam L.)	Snow Bunting	13	11	118:100

COMPARISON OF WINTER AVIFAUNAS OF ADAK AND ATTU ISLANDS

The winter avifauna of Attu Island has recently been described by Sutton and Wilson (Condor, 48, 1946:83-91). In comparing the two avifaunas, it should be borne in mind that observations were made during slightly different periods of the year; the Attu study extended from February 20 to March 18, 1945, while on Adak the comparable period was November 18, 1945, to January 20, 1946.

The climate and topography of Attu appear to be similar to those of Adak, except that the Adak weather during the period covered, while extremely changeable and often tempestuous, was not as stormy as that of Attu, nor did snow drift in the lower altitudes so thickly as to cover all natural terrestrial sources of food. Many patches of plant growth were exposed by wind on the ridge-tops, projected through the snow in shallow drifts or were kept free of snow by the action of wave and tide. Whereas a large proportion of the Adak observations were made either on a large fresh-water lake or on one

of two calm lagoons, neither of these habitats was represented in the Attu area. Correspondingly, those birds which seemed largely restricted to the lagoon habitat, especially, were not noted on Attu. These include the following species: Mallard, Gadwall, Pintail, Bufflehead and Red-breasted Merganser. The European Teal, of which only one was observed, might also be included. All these were observed to favor calm water, even to the extent of leaving their favorite feeding and loafing areas when those occasionally became too rough. It is thought that in the fall these birds use the numerous small open ponds on islands throughout the chain and that when these ponds freeze in early winter the majority migrates southward and stragglers congregate in certain rather rare and favorable spots, such as the calm and marshy-shored lagoons. Thus it seems possible that if such areas are to be found in the western-most islands, these birds might be discovered to winter on them.

Since Adak is situated between Attu and the Alaska Peninsula, it is to be expected that certain stragglers from the mainland will be found in the former only. The Pigeon Hawk and the Boreal Shrike are in this category. Other primarily mainland forms like the Bald Eagle, the Red-backed Sandpiper, the White-winged and Surf scoters, the Red-necked and Horned grebes, and the Mew Gull are thought to diminish in numbers westwardly. Of these, only the White-winged Scoter was observed on Attu, and this was a single individual.

Certain other birds are only rarely observed and might be missed in one locality or the other. These include the Steller Eider and the Black Oyster-catcher, which were observed on Adak but not on Attu, and the Gray Sea Eagle, which was noted only on Attu.

The Northern Murre and the Ancient Murrelet were observed only on Attu, but the steep and rocky western shores of Adak, where the Alcids are said to be found, were not covered in my study.

From the foregoing it seems evident that the winter avifaunas of both Adak and Attu stem from the mainland of Alaska; there is no group of primarily Asiatic forms at this season. There are, however, real differences between the avifaunas, and these may be explained on ecologic and geographic grounds.

San Francisco, California, April 17, 1946.

FROM FIELD AND STUDY

Clark Nutcracker in Nuevo Leon, Mexico.—On July 16, 1945, I collected a specimen of Clark Nutcracker (*Nucifraga columbiana*) on Cerro de Potosí, some 25 kilometers northwest of Galeana, Nuevo Leon. The species apparently has not been reported heretofore from northeastern Mexico. Neither Ridgway (Bull. U. S. Nat. Mus., 50, pt. 3, 1904:281) nor Hellmayr (Publ. Field Mus. Nat Hist., Zool. Ser., 13, pt. 7, 1934:9) list any records of occurrence south of the regularly occupied range in New Mexico and Arizona, nor does van Rossem (Occas. Papers Mus. Zool. Louisiana State Univ. No. 21, 1945) include the species in his list of birds of Sonora. Apparently the only nutcrackers taken in Mexico have been in the San Pedro Mártir Range in Lower California where the species is designated as "sparingly resident" by Grinnell (Univ Calif. Publ. Zool., 32, 1928:148).

My specimen, which is now no. 94785 in the Museum of Vertebrate Zoology, was one of a flock of three birds encountered near the top of Cerro de Potosí at an elevation of approximately 11,300 feet. It proved to be an immature female still retaining much of the dull, pale brownish juvenal plumage typical of young birds in summer. The bill is short (exposed culmen, 32 mm.), which is also a characteristic of young nutcrackers. The alimentary tract was crammed with small dung beetles, and encrusted fecal material on the bill suggested that this was a regularly sought food.

Presumably the three nutcrackers which I saw were vagrants from New Mexico or some other part of the breeding range 800 miles to the northwest. Both Ridgway and Hellmayr cite scattered records of occurrence from the central United States (Missouri, Iowa, Wisconsin, etc.), indicating that nutcrackers do at times wander great distances from their normal range. However, the upper reaches of Cerro de Potosí support a typical boreal forest of the type frequented by nutcrackers in the Rocky Mountains, and I do not entirely dismiss the possibility that the species may breed there.—A. STARKER LEOPOLD, *Museum of Vertebrate Zoology, Berkeley, California, June 26, 1946.*

"Tunnel Fliers" and Window Fatalities.—The recent note by Ross (Condor, 48, 1946:142), inspired by Willett's query (Condor, 47, 1945:216), appeals to me as a logical explanation of the window fatalities of Russet-backed Thrushes. Birds that habitually make swift flights through restricted passages in heavy cover would seem to be guided by the view of light ahead and are quite naturally deceived by an obstruction of transparent glass.

In looking over the accession records of the Royal Ontario Museum of Zoology for the past few years, it has been possible to list a rather large number of migrant birds known to have been killed in the Toronto region by flying against windows, or those supposed to have been killed in that way on the basis of circumstantial evidence. The Oven-bird tops the list. The thrushes follow in this order—Olive-backed, Hermit, Gray-cheeked and Veery. Other birds known to have met death by striking windows are Ruffed Grouse, Woodcock, Sharp-shinned Hawk and Ruby-throated Hummingbird. All these would seem to fall in the class of "tunnel fliers."

Second only to the Oven-bird, but not associated with window fatalities, is the death rate of the Yellow-bellied Sapsucker. This woodpecker is a night migrant, which circumstance might be supposed to increase likelihood of accident in urban areas, but so are many other species which have, according to our records, a much lower rating. What factors are affecting the mortality rate of the Yellow-bellied Sapsucker?—L. L. SNYDER, *Royal Ontario Museum of Zoology, Toronto, Ontario, July 22, 1946.*

Feeding Habits of the White-breasted Wood-swallow.—The White-breasted Wood-swallow (*Artamus leucorhynchus*) is of widespread distribution among the islands of the western and southwestern Pacific. It is a common bird in the littoral coconut plantings of the Philippines where it has welcomed the introduction of telephone poles and their intervening strands of wire. In chattering rows on these man-provided perches the Wood Swallows await passing insects, after which they sally forth much in the manner of feeding tyrant flycatchers.

Occasionally they select as potential meals insects much too large for a single birds to cope with and in such instances the capture of the prey becomes a community project. In the city of Zamboanga, Mindanao, I watched from within a few feet a group of four wood-swallows systematically destroying a four-inch long grasshopper which crawled across the ground. The first bird swooped down to deal the insect a sharp blow with its beak and one by one its companions dropped like dive bombers to further maim their victim. Despite the speed with which they flew, never once did a bird overshoot its target. The toughness of the grasshopper's horny exoskeleton required many blows before the insect was sufficiently injured to allow one of the birds to carry it away.—KEN STOTT, JR., *San Diego Zoo, California, July 12, 1946.*

Real de Arriba, Mexico, as a Deppe Locality.—Brodkorb (Occas. Papers Mus. Zool., Univ. Mich., No. 459, 1942:5-7) has outlined the problem concerning the true location of "Real Arriba" in the state of Mexico. His statement that "it cannot be finally proved until another collector visits the spot to see whether Deppe's species actually occur there" led the present authors to pay particular attention to the species which have been recorded from "Real Arriba" as listed by Brodkorb when they visited the area on July 28 and 29, 1946.

Real de Arriba, Mexico, is situated in the valley of the Rio Temascaltepec at an altitude of 5850 feet, a scant three miles southeast of the town of Temascaltepec, which is only 350 feet lower at 5500 feet. The canyon between Real de Arriba and Temascaltepec trends northwest and southeast. It is enclosed on three sides by high, conifer-covered mountains but opens to the northwest where the Rio Temascaltepec flows to join the Rio Balsas.

The character of the vegetation indicates that Real de Arriba lies in an area intermediate between the tropical and temperate zones, for elements of both are present. Pines and oaks come down to the town, but bananas and other tropical plants flourish on the floor of the valley. On the dry, open portions of the canyon walls occur tree-yuccas and tuna cactus. Along the Rio Temascaltepec, alders and willows are mixed with dense semi-tropical growth.

The following species listed by Brodkorb (*loc. cit.*) as having been recorded from "Real Arriba" were collected by the authors: *Myadestes obscurus, Myioborus miniatus* and *Basileuterus rufifrons*. In addition *Trogon mexicanus* and *Vireo griseus* were commonly observed. *Junco phaeonotus* was noted 11 miles east of Real de Arriba, at 9000 feet. It undoubtedly follows the pines from this point to the ridges above Real de Arriba. *Ortalis vetula* was not found, but the natives assured us that chachalacas were common southwest of Temascaltepec at lower altitudes. This is possibly also the case with *Thryothorus pleurostictus*. It seems certain that any species which has been recorded from Temascaltepec would also occur at Real de Arriba, for no barrier exists between the two places. Of the remaining four species, *Dendroica nigrescens* is a migrant, *Vermivora superciliosa* and *Basileuterus belli* are restricted to higher country, which we did not investigate, and *Melozone kieneri* may well have been present, but overlooked.

In addition to the species mentioned above, the following were collected: *Myiochanes pertinax, Thryothorus felix, Melanotis caerulescens, Catharus aurantiirostris, Sialia mexicana, Piranga erythrocephala, Guiraca caerulea, Pipilo fuscus, Aimophila rufescens* and *Spizella passerina*. The following species were observed: *Coragyps atratus, Cathartes aura, Scardafella inca, Crotophaga sulcirostris, Catherpes mexicanus, Carpodacus mexicanus* and *Spinus psaltria*.

In conclusion, it is felt that Brodkorb's designation of Real de Arriba, state of Mexico, as synonymous with the "Real Arriba" of Deppe is well founded.—Charles G. Sibley and John Davis, *Museum of Vertebrate Zoology, Berkeley, California, August 19, 1946.*

Notes on the Cedar Waxwing at Tucson, Arizona.—There appear to be few published fall and winter records of the Cedar Waxwing (*Bombycilla cedrorum*) for the Tucson region, Arizona. Swarth (Pac. Coast Avif. No. 10, 1914:64) stated that this species is "of rare and irregular occurrence" in Arizona. He reported migrants at Tucson in March, May, and June. We have the following records to add:

December 1, 1940. Six were seen on the bank of Rillito Creek north of our home, six miles northeast of Tucson. They were in a catclaw bush, climbing about in a clump of mistletoe (*Phoradendron californicum*), evidently eating the berries.

December 22, 1940. One was seen near the old Fort Lowell ruins northeast of Tucson. It was eating the fruit of a hackberry tree (*Celtis reticulata*). This occurrence was reported in the 1940 Christmas bird census (Aud. Mag. Suppl., 1941:139).

October 21, 1945. Seven were seen at Binghamton Pond in hackberry trees. They remained there all forenoon, obviously attracted by the large, red berries, which, we noted, they swallowed whole.

December 1, 1945. One was in our front yard on Kleindale Road. At 2:20 p.m. it came to our pyracantha bush and ate ten of the red berries. At this time of the year the berries are only moderately pulpy, not juicy. They contain five small, black seeds which are probably indigestible. After a 10 minute rest in a near-by mesquite the Cedar Waxwing returned to the bush and ate ten more berries. Again it rested in the mesquite, this time for 15 minutes. Then it ate seven berries. The next rest period was longer—26 minutes; only six berries were eaten afterward. All the berries were swallowed whole. The total was 33 berries in 51 minutes. These pyracantha berries measured from 6 to 7 mm. in diameter; 33 of them occupied a space of about 9 cc. and weighed 3⅛ grams. It looked like a rather bulky meal. Hartman (Auk, 63, 1946:59) gives the arithmetic mean body weight of the Cedar Waxwing as 33.8 grams. Using this value for our bird we obtain a food consumption of close to ten per cent of the body weight.

January 26, 1946. Three were seen at Binghamton Pond.

January 30, 1946. Eight were seen in an ornamental conifer on a busy street in Tucson.

February 6, 1946. Eight were seen four miles north of Tucson perching on electric wires.

February 26, 1946. A dead bird, possibly killed by contact with the high voltage wires overhead, was found on the ground at the Tucson electric power plant. It weighed 38.5 grams.

Very probably more field work would produce more records. However, the number of Cedar Waxwings present during the winter in the Tucson area is evidently not large. Due to their habit of wandering extensively in small groups over the valley, they can easily be missed.—ANDERS H. ANDERSON and ANNE ANDERSON, *Tucson, Arizona, June 8., 1946.*

The Kenai Song Sparrow in Washington.—A Song Sparrow in my collection, taken by the late D. E. Brown at Marysville, Snohomish County, Washington, on October 2, 1933, had been identified by H. S. Swarth as *Melospiza m. caurina*. Since it differed greatly from other specimens of *caurina*, I sent it to Alden H. Miller. He identified it as *kenaiensis*, and commented: "It represents the first instance, as far as I know, of this race migrating southward. The bird simply does not fit in with *caurina*. Swarth, I note, so identified it, and I would hesitate to differ with his experience with Alaskan birds. However, the bird is definitely too gray and too large for *caurina*, and seems to correspond very well to our *kenaiensis*." Since Miller was unable to compare the specimen with *insignis*, I sent it to Alexander Wetmore and J. M. Aldrich. They agree that on the basis of present treatment it should be called *Melospiza melodia kenaiensis*.

Wetmore commented as follows: "It differs from our series of *kenaiensis* in being grayer above but has the size of that race and comes nearer to it in color than to any other. It is possibly an intermediate individual toward some one of the other races and it is, of course, possible that it may represent a population that some time may be described as new. That, however, is not evident from this single specimen. The bird is smaller than *insignis* and also is grayer in color. It is much larger than *caurina* and also much lighter in color."

The Washington specimen is very close in general coloration to one of our September birds from Kodiak Island, but the pileum and back are much more distinctly streaked, and the bill is much smaller than in the latter. The bill is similar to that of *caurina*. Perhaps this bird came from the Alaskan coast somewhere between the areas inhabited by typical *insignis* and *kenaiensis*. The specimen is marked female and has the following measurements: wing, 72 mm.; tail, 71; culmen, 13.—MAX M. PEET, *Ann Arbor, Michigan, August 17, 1946.*

The Recovery of a Wounded Swan.—Among various items belonging to Professor George Davidson received by the California Academy of Sciences in December, 1945, from the estate of his daughter, the late Ellinor Davidson, was an arrowhead to which the following note, dated January 5, 1884, was attached:

"This arrowhead was found in the body of a swan, which was killed 9 miles below Sacramento, Cal. near the river by Paravenio, an Italian hunter. It was imbedded in the flesh under the right wing, the point—having passed through the body—protruding about 2-½ inches (or as far as the double ink mark). The portion inside was surrounded by feathers growing from the flesh inside the wound, while the socket of the arrow had united to the flesh ('grown into it as a tooth in the gum').

"The swan seemed not the least impeded by the presence of the arrow, but the feathers on the wing were worn away by friction etc. A. C. Dark, Collector.

"*Addenda*: The arrow-head is reindeer horn in my estimation and the bird was a white [northern] swan. A. C. D."

The arrowhead has been identified by Dr. G. Dallas Hanna, who has spent much time in Arctic North America, as one made of caribou horn and used by the Eskimos along the Arctic coast of Alaska. The object measures six and three-fourths inches in length and averages about one-half an inch in width, being somewhat flattened. Similar arrowheads are described by E. W. Nelson in his account of "The Eskimo About Bering Strait" (18th Ann. Rept., pt. 1, Bur. Amer. Ethnology, 1899).

The bird in question, probably a Whistling Swan (*Cygnus columbianus*), evidently was able to survive the severe injury caused by the arrowhead penetrating its body. Even more remarkable is the obvious conclusion to be drawn from the foregoing facts that though the object was still imbedded in the swan's body and protruded several inches through the flesh under the right wing, it did not prevent the bird from making at least one, and perhaps more, extended migration flights of several thousand miles from northern Alaska to central California.—ROBERT T. ORR, *California Academy of Sciences, San Francisco, August 22, 1946.*

A Western Tree Sparrow from California.—Records of the Western Tree Sparrow (*Spizella arborea ochracea*) in California are so few in number that additional occurrences seem worthy of notation.

On May 14, 1946, J. G. Smith captured a living individual of this species as it came aboard the cruiser U. S. S. Pasadena off the California coast. At the time the sparrow was discovered, the cruiser was fifty miles south of the Golden Gate and thirty miles off-shore. According to Smith, the bird came aboard in an exhausted condition and died just prior to the time the cruiser put into Los Angeles harbor. Smith gave the specimen to Mrs. Mary V. Hood of Los Angeles who in turn brought it to the Los Angeles Museum.

The specimen, an adult male (L. A. Museum Coll. 20332), was compared with a series of skins of *ochracea* from the collections of the Los Angeles Museum and the Museum of Vertebrate Zoology and is definitely referable to this race.—KENNETH E. STAGER, *Los Angeles Museum, Los Angeles, California, September 1, 1946.*

Reactions of Cliff Swallows to a Buteonid Hawk.—On May 18, 1946, the author and four other bird students were observing a colony of Cliff Swallows (*Petrochelidon albifrons*) on the north-facing lava cliffs of Saw Mill Ravine at Cherokee, Butte County, California. The colony included several hundred birds, mostly busy at nest building. A large buteonid hawk flying by within about 100 feet of the cliffs caused considerable excitement among the birds. Their flight became more rapid and erratic and some swallows were seen to dive at the hawk, although none of them was actually seen to come in contact. The hawk alighted in a tree about 300 yards from the colony and the swallows followed to a position above the tree, where they milled around excitedly in a well defined spherical flock. They gradually quieted down and in about fifteen minutes were back to nest building. Half an hour later, a Turkey Vulture (*Cathartes aura*) was seen flying past within fifty or sixty feet of the cliffs, but none of the swallows exhibited concern. But an hour or so later, most of the swallows formed a milling flock above one of the observers who approached more closely to the nests than had others of the party.

The concern exhibited by the swallows over the presence of the hawk is at variance with the statement in Bent's "Life Histories of North American Flycatchers, Larks, Swallows and their Allies" (1942:480), that "the appearance of a hawk in the vicinity of a colony of Cliff Swallows never creates any evidence of excitement, . . ." However, it does not necessarily indicate that they recognized the species as an enemy. It is well known that the feeding habits of hawks varies with the situation, and this individual may have been recognized because of having previously attacked swallows.—J. BRUCE KIMSEY, *Chico, California, August 21, 1946.*

A New Flycatcher of the Genus Monarcha from the Bismarck Archipelago.—The widespread and variable flycatcher, *Monarcha cinerascens,* occurs as a common resident on small off-shore islands and along the coasts of larger ones from Timor around the north coast of New Guinea to the northern Solomon Islands. The species has been recorded from all parts of the Bismarck Archipelago and several subspecies have been separated in that region. It is not surprising, therefore, to find a well marked race inhabiting the hitherto ornithologically unexplored islet of Tench in the St. Matthias Group. This new race may be known as

Monarcha cinerascens tenchi, new subspecies

Type.—Adult male, no. 90235 Mus. Vert. Zool., from Tench Island, St. Matthias Group, Bismarck Archipelago, collected August 19, 1944, by Charles G. Sibley, orig. no. 2427.

Diagnosis.—Intermediate in tone of coloration between *M. c. perpallidus* and *M. c. impediens,* the abdomen of *tenchi* being Ochraceous Tawny (Ridgway, Color Standards and Color Nomenclature, 1912), that of *perpallidus* Cinnamon Buff, and that of *impediens* Sanford's Brown.

Range.—The island of Tench, located 30 miles east of Emirau Island in the St. Matthias Group, Bismarck Archipelago.

Specimens examined.—Two adults (male and female) from Tench have been compared with fourteen males and eleven females from Emirau and Mussau and with seven males and five females from Feni and Green islands. In addition, one female from New Hanover, one female from Watom, one male from Manus, and two males and one female from Ahu, Ninigo Group, have been examined.

The color of the abdomen of *tenchi* exactly matches that of the three specimens of *M. c. fulviventris* from Ahu, Ninigo Group. These two races are separable by differences in dimensions as shown in the table.

The single specimen from Manus, Admiralty Islands, agrees in coloration with those from Ahu although the bill is larger; it is tentatively referred to *fulviventris.* This is also true of the single specimen from Watom which resembles *fulviventris* in color but has an even larger bill than the specimen from Manus. The specimen from New Hanover has a smaller bill than any of the 25 adults from the St. Matthias Group, but it is possibly an immature bird. A summary of the characters of the forms examined is presented in the table. The color of the posterior underparts is designated by comparison with Ridgway (*op. cit.*) and also with Maerz and Paul (Dictionary of Color, McGraw-Hill Book Co.,

Name and locality		Wing	Tail	Bill from nostril	Color of posterior underparts
impediens	7 ♂ ♂	82.7-86.5	68.5-75.2	12.8-13.2	Sanford's Brown (R);
Feni-Green		(84.1)	(71.2)	(13.0)	Russet Brown, 14-I-12 (M and P)
	5 ♀ ♀	82.4-82.8	70.0-72.0	12.1-13.3	
		(82.5)	(70.7)	(12.7)	
fulviventris	2 ♂ ♂	86.7-90.6	75.5	13.9	Ochraceous Tawny (R);
Ahu, Ninigo		(88.6)			Peruvian Brown, 13-L-11
Group	1 ♀	87.0	75.3	13.3	(M and P)
Watom Island	1 ♀	89.6	77.4	15.1	As in *fulviventris*
Manus Island	1 ♂	89.8	76.3	14.5	As in *fulviventris*
tenchi					
Tench Island	1 ♂ (type)	82.3	70.7	13.0	As in *fulviventris*
	1 ♀	80.0	69.5	12.3	
perpallidus					
Emirau-Mussau	14 ♂ ♂	81.8-86.4	70.0-78.6	12.5-13.8	Cinnamon Buff (R);
		(83.2)	(73.8)	(13.2)	11-G-5 (M and P) = slightly
	11 ♀ ♀	78.0-84.4	68.5-74.8	12.1-13.4	lighter than Chamois
		(81.7)	(71.1)	(12.8)	

Inc., New York, 1930); measurements are in millimeters and averages are enclosed in parentheses. For the loan of comparative material, I wish to thank Dr. Ernst Mayr of the American Museum of Natural History and Mr. James L. Peters of the Museum of Comparative Zoology.—CHARLES G. SIBLEY, *Museum of Vertebrate Zoology, Berkeley, California, August 24, 1946.*

Occurrence of Mastiff Bat Remains in a Pellet of the Barn Owl.—In August, 1945, a small number of owl pellets was collected at Bee Rock, in the Hollywood Hills, Los Angeles County, California, by Mr. Peter M. Neely. This large rock contains, on its southern exposure, a number of small natural caves, in one of which the pellets were found. A study of these pellets seemed to indicate that they were regurgitated by the Barn Owl (*Tyto alba*), the species most frequently observed in the area.

Subsequent analysis revealed the presence of a nearly complete skull of the California Mastiff Bat (*Eumops perotis californicus*), by far the largest and strongest of North American bats. The presence of this species of bat had been recorded previously in this locality, a single individual having been observed in flight about one hundred yards from the rock.

From time to time, the remains of smaller bats of various species have been recorded from the pellets of the Barn Owl. However, the presence of this large, swift-flying mammal seemingly is unique in the diet of the Barn Owl. Due to the strong, swift flight of this bat, it is probable that the mammal was either captured while occupying one of the small caves, or that the individual was in poor physical condition.

Although bats form an extremely small portion of the food of the Barn Owl, the occurrence of a new article of food is of interest.—WILLIAM G. REEDER, *Los Angeles, California, August 19, 1946.*

Distributional Records from Humboldt County, California.—The following observations together with records of specimens seem noteworthy in the light of data summarized recently by Grinnell and Miller (Pacific Coast Avif. No. 27, 1944). Specimens were identified by R. T. Orr of the California Academy of Sciences, whose kind assistance is here acknowledged.

Philacte canagica. Emperor Goose. A male of this species was taken by a local hunter on December 3, 1942; it was shot in the Eureka ship channel of Humboldt Bay.

Micropalama himantopus. Stilt Sandpiper. On September 22, 1940, a male was collected near the Clarke Street Slough, Eureka, California.

Sterna hirundo hirundo. Common Tern. On October 6, 1924, two males were collected on Humboldt Bay.

Colaptes auratus borealis. Yellow-shafted Flicker. On January 16, 1945, a female was found dead on the highway about one mile south of Eureka, California, by Mrs. Vera Vietor.

Dryobates nuttallii. Nuttall Woodpecker. On February 14, 1946, one was closely observed at Benbow's in southern Humboldt County. The same individual was also seen by two other observers, Mr. W. Perrott and Mrs. V. Vietor, who noted it on three occasions; on the last occasion, the Nuttall Woodpecker was in company with a Downy Woodpecker, which gave the observers a good opportunity to compare the two forms. The locality of record is north and east of the usual range, being in the denser coastal redwood region.

Sayornis saya saya. Say Phoebe. A female was taken off some old wreckage on the ocean beach at Samoa, California, on October 12, 1924. On November 26, 1939, another female was collected in Eureka, California.

Sialia currucoides. Mountain Bluebird. On February 12, 1922, a male was taken on the sand dunes a mile north of Samoa, California, by a local collector.—JOHN M. DAVIS, *Eureka, California, September 4, 1946*.

Some Records of the Spotted Owl in Washington State.—Authentic records of the Northern Spotted Owl (*Strix occidentalis caurinus*) in the State of Washington are so few as to warrant publication of the following additional occurrences. Two records from the eastern slope of the Cascade Range are at hand. A skin labelled as a female collected at Cle Ellum, Kittitas County, on October 15, 1930, is in the E. A. Kitchin Collection at the College of Puget Sound. Presumably the collector was Mr. Kitchin, although this is not recorded; the length is given as 18¾ inches. In June of 1942 Dr. V. B. Scheffer and the writer examined a mounted specimen which was being held in the Jonas Brothers' shop in Seattle, for Mr. Leo P. Gleason of Leavenworth. In reply to my request for information Mr. Gleason wrote (June 6, 1942) that this bird "was shot by me last winter on the trap line about 1 mile above Lake Wenatchee, Chelan County. This is the only one that I know of that was ever killed here . . . ." These, and Kitchin's account of a pair seen in the Blewett Pass region (Mt. Rainier Nat. Park Nature Notes, 17, 1939:128), seem to be the easternmost records of this species in the state.

A number of specimens have been reported from the Puget Sound basin, including the type of *caurinus*. The whereabouts of two may be briefly noted: A male in the Kitchin Collection was collected by Leo K. Couch at Mud Bay [= Eld Inlet], [west of] Olympia, Thurston County, on August 15, 1934. An adult female from near Lake Washington, Seattle, collected November 1, 1905, by "W.H.S. for S.F.R." is in the S. F. Rathbun Collection at the Washington State Museum.

Published records of this owl on the Olympic Peninsula seem limited to the early statement of Merriam (Auk, 15, 1898:39-40) that it occurred there. A skin from Royal in western Clallam County in the D. E. Brown Collection at the Washington State Museum is therefore of interest; the bird was a female collected on September 11, 1927. A second clearly authentic record is attested by a letter from John Fletcher, dated August 25, 1942. He recalls that "the owl was captured by a cascara bark peeler around the last week of July or the first week of August, 1938: [it was] mid-afternoon [when] he noticed the owl flying short, clumsy distances, and walked up . . . and captured it quite easily as it sat on a stump . . . in the woods near the Fred Fletcher farm on the lower Hoh [River] . . . . The owl's height was approximately 15" and the first thing noticed was the dark irises of the eyes instead of the usual yellow . . . . The ease with which the bird was captured and the motley young looking plumage led us to suspect that it was a juvenile." The owl was identified by means of Taverner's "Birds of Canada," and was kept 3 or 4 weeks before being released. It fed well on chipmunks and jays that were shot for it.—J. W. SLIPP, *Tacoma, Washington, September 16, 1946*.

Loss of Feathers at Times Other Than the Normal Molt.—The loss of corresponding feathers on both wings at a time other than the normal molt is a condition we have observed a few times each year in the birds handled in the course of our many years of intensive banding. Most of these records are for House Finches (*Carpodacus mexicanus*). This species far outnumbered any other trapped by us.

The absence of feathers in one wing is always regarded as an accidental loss and the absence of identical or almost identical feathers in both at the same time was at first considered as due to some unusual accident and as a coincidence.

On November 24, 1936, when an adult male House Finch (C-34397) was taken from a trap, it was noticed it had dropped several secondaries in the trap. These were 2-3-4-5 from the right side. While examining the bird, secondaries 2-3-4-5-6 from the left wing came out at the merest touch and also secondary 6 from the right wing. All other feathers were firmly attached. With ten secondaries gone this bird flew well and was released. It was known to have been in the trap for only a short time and it was not molested in any way. This bird had been banded as an adult male on May 15, 1930. It was this experience that made us feel such cases merited observation.

On December 30, 1936, a male House Finch (37-1053), which had been in hand and had had wings spread for examination on four of the six days since it had been banded on December 24, was observed to have lost secondaries 4-5-6-7 of the right wing and secondaries 3-4-5-6 of the left wing. It was caught almost daily thereafter. On January 3 the two wings were exactly alike with secondaries 2-3-4-5-6-7-8 gone from both wings, and two upper greater secondary coverts and one upper middle secondary covert also were gone on each side. The missing feathers grew out and on February 12 this note was made: "The new secondaries are now all full length. Wings are perfect except that on

each side the fourth from proximal upper greater secondary covert is gone. Looking at the spread wing the division between old and new feathers is picked up exactly as in young birds that have undergone partial molt. The new feathers are darker and more strongly barred than the old."

That such feather loss is not due to delayed molt is evident from an adult female House Finch (L-35255) in which the molt had been watched. On October 7, 1936, this bird was molting normally, our note on that date stating that secondaries 1-2-3-4 were new and full length, 5 was half grown and 6 was still old. The sides were alike. Yet on November 17 this bird was taken with secondary 1 short on each side, and the upper greater secondary covert above it was gone on each side. These feathers did not grow out normally and were the same on November 30. This bird was banded as an adult female on July 24, 1933.

A young bird of the year, a female House Finch (36-67371), that had molted no primaries or secondaries was taken on November 30, 1936, with the two distal upper greater primary coverts of each wing gone.

On November 28, 1939, a female House Finch was found with upper greater primary coverts 4-5-6-7-8-9 gone on each wing. There were very small quills started at this time to replace them. But these were again lost, for on February 6, 1940, this bird had only upper greater primary coverts 1-2 on each side. The white quills of the primaries exposed by the absence of the coverts were so conspicuous that the bird appeared to have a whitish spot on each wing. We have other records of this condition.

Gambel Sparrows (*Zonotrichia leucophrys gambelii*) seem rather prone to such feather losses. One of these birds on February 27, 1940, lacked primaries 3-4-5-6-7-8-9 in both wings. The spring molt is in progress in Gambel Sparrows at this itme of year but the primaries are not affected by it, nor is any such simultaneous loss normal in molt. This bird was released with many misgivings. The next day it was trapped again. It had survived a hard rain and when released it flew to the top of a shrub fourteen feet away and ten feet high. We wonder what may be the safety factor in a bird's wing.

We have found body tracts entirely bare or covered with very young quills. In these we have not always seen such exact symmetry as in the wings. We reported some years ago a male House Finch taken in April, 1932, with no feathers on the body (Condor, 38, 1936:102-109); head and wings were in normal condition. This bird entered our traps regularly. New feathers grew on the anterior part of the body, but the rump was unfeathered until the normal molting season. The breast feathers on renewal were brown, not red, until the next molt.

In our experience such feather loss has accounted for a yellow superciliary streak in a male House Finch with the otherwise usual red head coloring. In a bird with colored wings it might occasion a striking wing pattern if the normal color were produced only at the normal molt. In immatures of birds with a wing pattern that is not acquired at the postjuvenal molt, such loss and renewal would produce a wing part adult and part juvenal in pattern. It might also well account for the occasional bird that fails to migrate at the usual time if the loss of flight feathers were at all extensive. We have no theory as to the cause of such feather losses.

Probably the main importance of knowledge of the occasional occurrence of such feather losses lies in the recognition of it as a possible cause of abnormal plumage pattern.—Harold Michener and Josephine R. Michener, *Pasadena, California, May 10, 1946.*

The Elf Owl Moves West.—My own impression, based on a number of years' acquaintance, is that the Elf Owl (*Micropallas whitneyi*) thins out in population density as it nears the western limit of its area of distribution, with a sharp drop to zero at the Colorado River valley. A. J. van Rossem has taken it on the California side of the river at Pot Holes. I once met it among the marginal shrubbery at Blythe, but we have only a highly questionable record of the species any farther west in California. It is not strange, then, that some quite definite excitement was aroused when van Rossem and I were greeted shortly after sunset by the first quaver of an Elf Owl in a scrubby tree at Cottonwood Spring, May 6, 1946. This locality lies at the western end of the Eagle Mountain mass within the Joshua Tree National Monument in Riverside County, California. Seventy-two miles of pretty severe desert separate it from the Colorado River valley directly east. The meridian of 116° W. longitude lies 12 miles to the west. Published records from Lower California (Grinnell, Univ. Calif. Publ. Zool., 32, 1928:118) relate to the race *M. w. sanfordi* of the Cape district.

The tree from which the first notes came was searched at once, and a pair of birds was twice seen as the male appeared to bring food to the female. At these times the cricket-like trill which may be designated as the "desire note" was given. This note had been definitely identified just two weeks earlier while I was at work in the Harquahala Mountains of Arizona.

The male bird moved about more or less but the female appeared to remain in one closely restricted part of the tree repeating the "station call," a single soft whistle which I have learned to associate with a stationed female. The typical querulous note of the species was heard frequently, and

on two occasions the male gave a note that was entirely new to both of us. It was like the Pigmy Owl's metronomic whistle rendered at much higher pitch and frequency but was more softly pronounced and in much shorter phrases.

The Elf Owls appeared to be especially interested in certain woodpecker holes which we discovered the following morning. Eggs had not been laid, however, since the female showed greatly enlarged ova but no corpus luteum. There was an incipient brood patch visible. We were confident that actual egg laying would have occurred within a week at most and that the nest hole had probably been selected.

The birds were not mere wanderers in the region. Dr. R. B. Cowles and party from the Los Angeles campus of the University of California had heard them at the same spot nine days earlier but had been unable to identify them beyond the order Strigiformes. Did selection of mates occur before their arrival at this far western point and the pair then start their westward pioneering together? It seems hardly probable that several birds came to the same outpost at the same time and that the selection of mate then took place. On the other hand, despite the extremely inhospitable aspect of the intervening area, there may be "stepping stones" for diffusion in the form of arborescent growth tucked away in canyons of the clinker-like masses of low mountains that lie well separated in the desert, like an archipelago stretching eastward to the Colorado. A thorough search of these "islands" at the right season might place on record still other breeding pairs of the Elf Owl.—Loye Miller, *University of California, Los Angeles, California, May 25, 1946.*

Wintering Mountain Bluebirds on the Santa Barbara Coast.—While stationed at the Marine Corps Air Station, Goleta, Santa Barbara County, California, I was surprised to find the Mountain Bluebird (*Sialia currucoides*) wintering along the seashore. On December 18, 1945, while observing a flock of Western Bluebirds (*Sialia mexicana*), I noted a bird of striking blue color. Upon closer examination it was found to be a Mountain Bluebird. Further observation showed that there was a mixed flock of Mountain and Western bluebirds here, numbering about 25 birds. The two species were about equally represented. They were usually seen perched on and foraging from some telephone wires on a bluff about one hundred yards from the coast, although on several occasions they were observed on the sand within a few feet of the ocean. These two species were seen together nearly every day until my transfer from this station on January 19, 1946.—George S. Mansfield, *Atascadero, California, June 15, 1946.*

The Orange-crowned Warbler in Oregon.—Recently Carl Richardson of Prospect, Oregon, sent me several birds collected in southern Oregon with a request that I identify them for him. His number 226 proved to be an adult female *Vermivora c. celata*, taken on May 5, 1944, eight miles southwest of Prospect, Jackson County, Oregon. The identification of this specimen has been verified by Dr. John W. Aldrich of the Fish and Wildlife Service. To the best of my knowledge this warbler has not previously been reported as collected in Oregon.—Stanley G. Jewett, *Portland, Oregon, March 6, 1946.*

A Record of the Myrtle Warbler for Box Elder County, Utah.—On May 7, 1946, at the Bear River Migratory Bird Refuge, Brigham, Utah, a male Myrtle Warbler (*Dendroica coronata*) was first observed by Lloyd F. Gunther and John B. Van den Akker. On various occasions for the following five weeks it was also observed in the same vicinity. This record is of interest in that this warbler has not been previously listed as occurring in this section of the state. The only other known record is that reported by Cottam (Wilson Bull., 54, 1942:254), who reports a specimen taken on October 9, 1870, barely in Utah, in the Uinta Mountains in the extreme northeastern corner of the state. —Lloyd F. Gunther and John B. Van den Akker, *Bear River Refuge, Brigham, Utah, June 28, 1946.*

Phainopeplas at Atascadero, California.—I spent June 22 and 23, 1946, on an 11-acre tract at Atascadero, San Luis Obispo County, California, the elevation of which is about 850 feet. Live-oak trees grow to immense proportions there. In addition to live oaks, there are a few fruit-bearing trees and shrubs, such as mulberries, elderberries, blackberries, and cascara. Near the house, between two mulberry trees which were loaded with ripe and ripening fruit, there was an almost constant traffic of Phainopeplas (*Phainopepla nitens lepida*), a bird which my sister who had lived there for twenty-five years had not seen in previous years, nor had I on my previous visits to Atascadero. I found two nests in her yard near the house, both in live oaks, one twenty-five feet, the other fifteen feet above the ground; the latter contained three eggs near hatching.—Emerson A. Stoner, *Benicia, California, June 29, 1946.*

NOTES AND NEWS

At a recent meeting of the Board of Directors of the Cooper Ornithological Club, Mr. C. V. Duff was named Assistant Business Manager of the Club. He serves with W. Lee Chambers, Business Manager, and John McB. Robertson, Treasurer, in handling the financial affairs of the organization.

The U. S. Department of the Interior reports the death of Major Edward A. Goldman on September 2, 1946, in Washington, D.C., at the age of seventy-three. Although principally a mammalogist, Major Goldman is known to many ornithologists for his long association in Mexican explorations with E. W. Nelson as well as for a series of papers on birds. His service with the Fish and Wildlife Service extended over 51 years. He was elected to membership in the American Ornithologists' Union in 1902.

The Fourth Ten-year Index to The Condor, years 1929 to 1938, inclusive, will be issued as Pacific Coast Avifauna No. 28 early in 1947. The publication is the work of John McB. Robertson. Revised proof of the index is now in the office of the editors.

The work of preparing the annual index to The Condor has this year been borne largely by Hilda W. Grinnell and Virginia D. Miller. The editors are grateful for the important aid they have given.

We view with concern the continued curtailment of bird-banding activity through the inability of the United States Fish and Wildlife Service to issue new banding permits. On the plea of inadequate staff, persons with specific research projects involving banding are not given the aid and encouragement they should have from this central clearing house for banding studies. The restriction imposed on this inexpensive type of research is poor economy on the part of a government that is still extravagant to an extreme.

A. Starker Leopold, Frank A. Pitelka, and Ward C. Russell have just returned to Berkeley from a six-weeks field expedition to Sonora and Sinaloa, Mexico.

Milton S. Ray was a member of the Cooper Ornithological Club for 48 years, and his written contributions to the Club's bulletin began with the first volume in 1899 when he was but 18 years of age. Throughout a long and highly successful career as a business man and industrialist, his intense interest in birds persisted with refreshingly youthful enthusiasm and energetic application. His death came on May 5, 1946.

Fig. 63. Milton S. Ray, 1881-1946. Member of the Cooper Ornithological Club for 48 years; field ornithologist, collector, and poet.

To Ray the dramatic and aesthetic aspects of bird study had great appeal. With a remarkable versatility he wrote and published several volumes of poetry. The teeming seabird life of the Farallon Islands was the inspiration for his first poems. Publication of a collection of his poetic writings in handsome format in 1934 by John Henry Nash led to a close friendship with this master of printing art. Later Mr. Ray purchased the unique John Henry Nash Library on Printing and presented it to the University of California, his alma mater.

Skill and persistence as a field observer led to Milton Ray's exceptional success in finding rare or hitherto unknown nests of birds. Many of his achievements in this direction were in the Sierra Nevada, where, for example, he found the eggs of the Sierra Nevada Rosy Finch, California Pine Grosbeak, and Goshawk. General reports on the nesting birds of the Tahoe district comprise some of his principal ornithological writings. A large proportion of his 50-odd contributions on California birds have appeared in The Condor.

Ray's large private collection of birds' eggs, nests, and skins grew to such proportions that he adopted for it the name of Pacific Museum of

Ornithology. It was quartered at his home in San Francisco. In late years increased attention was given to scientific study skins, and he arranged with the veteran collector W. W. Brown to send him large representations of birds from Guerrero, Mexico. Ray was in the process of studying and reporting on this Mexican material, with technical advice from the staffs of the Museum of Vertebrate Zoology and the California Academy of Sciences, during the war period. His friendship and helpfulness in ornithological affairs will long be remembered and appreciated by his collaborators and by Cooper Club members.

PUBLICATIONS REVIEWED

"Birds of the Philippines," by Jean Delacour and Ernst Mayr (The MacMillan Company, New York, 1946, xv + 309 pp., 69 figs., 1 map). It is especially fitting that Delacour and Mayr should join forces in the task of preparing this book since they have long been interested in adjoining areas which have contributed many elements to the avifauna of the Philippine Islands.

The introduction (pp. 1-15) presents a brief survey of the geography and habitats of the Philippines relative to bird distribution and origin and includes a reprinting of "Hints to Observers" from Mayr's "Birds of the Southwest Pacific." The 7083 islands included within the political boundaries of the Philippine Archipelago have a land area of 144,400 square miles, being but slightly smaller in area than the British Isles. A total of 450 species of birds, of which 325 are resident and 125 are visitors, have been recorded from the Philippines.

Two main faunal provinces and three marginal districts are delineated in the Archipelago, with the Palawan Group treated as a completely separate entity since it is faunistically a part of the Malaysian subregion. The Philippines belong to the Oriental faunal region with Malaysian elements dominating. The Eastern Asiatic, Palearctic, Moluccan, and Papuan-Australian regions have contributed the remainder of the avifauna of the Philippines. Endemic genera have been reduced by the authors to seven and no endemic family is recognized.

The principal habitats are briefly described and the typical species of each habitat are listed. This section might well have been expanded, but its brevity is not entirely the fault of the authors. Previous workers have not recorded detailed ecological data and such information was not available.

The accounts of species, which occupy the greater portion of the book, follow a well conceived pattern. The family is first briefly diagnosed and general comments concerning habits or field appearance which apply to all members are discussed. Large or difficult families are accompanied by keys to the species. The species of each family are considered separately following the family diagnosis. The common and scientific names are given, followed by a size description consisting of a one- or two-word designation of relative size and the length in inches. The species are described with emphasis upon field characters. Subspecies are briefly diagnosed and their ranges are outlined. The species account is concluded with a paragraph describing habitat, food, voice, occurrence, nesting, and habits whenever the facts are known.

The birds of the Palawan Group are treated in an appendix (Appendix A). The avifaunal affinities of this group are with the Malaysian region. Of 111 resident species, 43 are Malaysian and 27 are Philippine in origin while 41 are common to both regions. A system of symbols indicates the faunal affinities of each species and only those not previously described in the main text are diagnosed.

Appendix B is a list of 167 generic synonyms which the authors subtitle, "List of genera used by McGregor and Hachisuka that have been synonymized in the present work." Many of these changes have been discussed previously by Mayr and Delacour (Zoologica, 30, 1945:105-117). Mayr and Delacour include the species of these in 108 genera, a net reduction of 59 genera. This is not, however, as drastic as it sounds. McGregor and Hachisuka were prone to split until there were few well marked Philippine species which had not been doubtfully honored with a generic name. Furthermore, McGregor did not employ trinomials and thus his genera tended to approximate the species of most other systematists. It is not surprising, in view of these considerations, that the first modern reviewers of the avifauna of the Philippines should find it necessary to submerge many genera.

The importance of this volume is far beyond that claimed for it as a field guide. It is a sweeping taxonomic revision of a large and complex avifauna. The state of confusion which prevailed in the field of Philippine birds has been supplanted by a modern treatment. Any minor imperfections possessed by the volume are far outweighed by its importance as a reference work in a region where one has long been needed.—CHARLES G. SIBLEY.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

JULY.—The monthly meeting of the Northern Division of the Cooper Ornithological Club was held on July 25, 1946, in Room 2503, Life Sciences Building, University of California, Berkeley. The meeting opened at 8:00 p.m. with Vice-President Frank A. Pitelka presiding and 36 members and guests present. The name of Leroy L. Jensen,

5185 Trask Street, Oakland, California, was proposed for membership by H. W. Carriger.

Recent field observations were as follows: Frank A. Pitelka reported the presence of a number of post-breeding birds in the vicinity of his home at 1 Canyon Road, Berkeley, mentioning in particular the House Wren. Pitelka also noted the disappearance of the Orange-crowned Warbler following the first week of July. Junea W. Kelly reported the presence of several hundred White Pelicans in the vicinity of Dumbarton Bridge on July 22 and the unusual absence of phalaropes there at that time. Walter A. Hicks added that a large number of White Pelicans had been present in the vicinity of the bridge on July 1, while Frank A. Scott reported that he had observed an estimated 1,000 pelicans there on July 25. Scott added that shore birds present there on the latter date included the Ruddy Turnstone, Godwit, Black-bellied Plover, and Dowitcher; but none of these was as abundant as usual. Junea W. Kelly suggested that the decrease in numbers of birds was due to tide fluctuations and the much increased salt concentration at this time of year.

The speaker of the evening was Dr. A. Starker Leopold, Director of Field Research of the Conservation Section, Pan American Union. Dr. Leopold's subject was the Curassows and Wild Turkeys of Mexico, which he illustrated with skins of specimens that he collected there.

Adjourned.—HAROLD C. REYNOLDS, *Acting Secretary*.

SEPTEMBER.—The monthly meeting of the Northern Division of the Cooper Ornithological Club was held on September 26, 1946, in Room 2503, Life Sciences Building, University of California, Berkeley. The meeting was called to order by President S. C. Brooks with 58 members and guests present. The minutes of the July meeting were read and approved. Proposals for membership were as follows: Stanley Galen Smith, 2438 College Ave., Berkeley 4, Calif., by Alden H. Miller; Lt. Clarence Crane, Jr., 616 Jerrold Ave., San Francisco 24, Calif., by Frank A. Pitelka; George W. Salt, 115 Dolores St., San Francisco, Calif., John E. Chattin, 6521 Dana St., Oakland 9, Calif., Paul A. Dehnel, 1213 Park St., Alameda, Calif., and Theodore Downs, Museum of Vertebrate Zoology, Berkeley 4, Calif., by Charles G. Sibley; and Charles F. Park, Jr., Dept. of Geology, Stanford University, Calif., by Edwin T. McKnight.

The recording secretary made request for the use of an addressing machine in connection with the addressing of the meeting announcement cards.

Field observations were initiated by Frances Carter, who reported the presence of the Puget Sound White-crowns on the Berkeley campus until July 5. Alden H. Miller reported the first migrant Fox Sparrow of the season on September 22 and the first migrant Gambel White-crown on the same date. Dr. Brooks exhibited a willow branch upon which a Red-naped Sapsucker had been working.

The speaker of the evening, Mrs. Junea W. Kelly, related her experiences with birds and bird observers during the spring migration at Put-in-Bay, Ohio.

Adjourned.—CHARLES G. SIBLEY, *Recording Secretary*.

SOUTHERN DIVISION

SEPTEMBER.—The regular monthly meeting of the Southern Division of the Cooper Ornithological Club was held in Room 145, Allan Hancock Foundation, University of Southern California, Los Angeles, Tuesday, September 24, 1946, at 8:00 p.m. President Ed N. Harrison presided, with about 75 members and guests present.

Minutes of the previous meeting were read and approved. Minutes of the Northern Division were read by title only.

The following names were proposed for membership: Mary Orr, Box 183, Reserve, New Mexico, and Vincent S. Yoder, 1346 Hyde St., San Francisco 9, Calif., by Mrs. N. Edward Ayer; Paul Anthony Greene, 1156 Adams Ave., Redwood City, Calif., Kenneth Leigh Scott Harley, 30 Gresham St., East Brisbane, Brisbane, Queensland, Australia, William Raymond Lasky, 181 N. Saltair Ave., West Los Angeles 24, Calif., and Earl Sanders, 945 Richland St., Santa Ana, Calif., all by W. Lee Chambers; Burt L. Monroe, Ridge Road, Anchorage, Kentucky, by Loye Miller; Henry Oliver Todd, Jr., Box 259, 106 E. Main St., Murfreesboro, Tenn., by John McB. Robertson; Donald M. Drake, 102 Buena Vista Ave., Modesto, by Irl Rogers; Gonzalo Morejohn, Jr., L. A. County Museum, Exposition Park, Los Angeles 7, Calif., by Kenneth E. Stager; Geo. L. Sherman, Upper Lake, Calif., by Clark P. Streator; and Ed Paulson, 6900 Calhoun Ave., Van Nuys, Calif., by Elmer W. Strehlow.

On a trip through the East this summer, Dr. W. B. de Laubenfels said that he noted that in places where he used to see grackles there were now only starlings. Ed Harrison reported that the Lt. Maxton Brown Sanctuary near Carlsbad is threatened. Certain interests would like to make it a speedway for boats.

Howard L. Cogswell, the first speaker of the evening, gave report on his experiences in the Nature Center Camps conducted by the National Audubon Society in New England. Ed N. Harrison then showed his Kodachrome motion picture of his field trip last spring with A. J. van Rossem, Loye Miller and W. J. Sheffler, which took them 500 miles below the border into Sonora, Mexico. The meeting then adjourned to give an opportunity to examine study skins displayed.

Adjourned.—DOROTHY E. GRONER, *Secretary*.

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For Sale, Exchange and Want Column.—Each Cooper Club member is entitled to one advertising notice in any issue of The Condor free. Notices of over ten lines will be charged for at the rate of 15 cents per line. For this department, address JOHN McB. ROBERTSON, Buena Park, California.

FOR SALE—The Murrelet: vol. 6, no. 1; vol. 14, no. 2; and vols. 11, 15, 20, and 23 complete.—A. L. NELSON, *3256 Van Hazen St., N. W., Washington 15, D.C.*

FOR SALE—Alaska Bird Trails, by Herbert Brandt. Some 18 per cent of the Cooper Club membership has purchased this excellent narrative of the Hooper Bay expedition to the delta of the Yukon River. Literature on request. This limited edition is now half sold. Price, $10.00 prepaid.—THE BIRD RESEARCH FOUNDATION, *2245 Harcourt Drive, Cleveland 6, Ohio.*

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FOR SALE—The Condor: volumes 30, 31, and 34 to 43 complete; miscellaneous numbers from volumes 17, 22, 23, 26-29, 32, 33, and 44-46. Also miscellaneous early numbers of Bird-Lore.—F. M. UHLER, *Patuxent Research Refuge, Bowie, Md.*

WANTED—Life Histories of North American Marsh Birds, A. C. Bent, U. S. National Museum, Bulletin No. 135. Please quote price.—H. W. CARRIGER, *5185 Trask St., Oakland 1, Calif.*

FOR SALE—Birds of California, by William L. Dawson, Sunset Edition DeLuxe, one of 350 copies signed by the author. Price $125.00.—EBEN McMILLAN, *Cholame, Calif.*

FOR SALE—BIRDS OF CALIFORNIA, a photographic calendar, 24 plates by Kathleen Dougan, clear black and white close range photographs, 7" × 9", and habitat studies; $1.50. Published by MILLS COLLEGE, *Oakland 13, Calif.*

PRICE LIST OF PUBLICATIONS ISSUED BY THE COOPER ORNITHOLOGICAL CLUB

In issuing this new list we have made many changes but have endeavored to price the items as low as is consistent with our limited editions and in accordance with a recent inventory. Many of our publications are now nearly depleted and some entirely sold out. All these publications are sent post paid anywhere in the United States; for sales in California please add 3% sales tax on all items except the Condor magazine.

THE CONDOR

Vol. I (1899) "Bulletin of the Cooper Ornithological Club" - - - - - - - - - - - - *(Out of print)*
Vols. II and III (1900-1901) The Condor - - - - - - - - - - - - - - - - *(Out of print)*
Vols. IV to VII (1902-1905) The Condor, complete, each volume - - - - - - - - - - - - - - - $10.00
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No. 1, 1900 Birds of the Kotzebue Sound Region, Alaska; 80 pp., *1 map* - - - - - - - - - - - - $1.00
By J. GRINNELL
No. 2, 1901 Land Birds of Santa Cruz County, *California; 22 pp.* - - - - - - - - *(Out of print)*
By R. C. MCGREGOR
No. 3, 1902 *Check-list of California Birds; 100 pp., 2 maps* - - - - - - - - - - - *(Out of print)*
By J. GRINNELL
No. 4, 1904 Birds of the Huachuca Mountains, Arizona; 75 pp. - - - - - - - - - - (Out of print)
By H. S. SWARTH
No. 5, 1909 A Bibliography of California Ornithology; 166 pp. - - - - - - - - - - - - - - - $4.00
By J. GRINNELL
No. 6, 1909 Index to the Bulletin of the Cooper Ornithological Club, *vol. I (1899), and its continuation*, The Condor, vols. II to X (1900-1908); 48 pp. $4.00
By HENRY B. KAEDING
No. 7, 1912 Birds of the Pacific Slope of Southern California; 122 pp. - - - - - - - - - - - - $ .50
By G. WILLETT
No. 8, 1912 A Systematic List of the Birds of California; 23 pp. - - - - - - - - - - - - - - $ .25
By J. GRINNELL
No. 9, 1913 The Birds of the Fresno District; 114 pp. - - - - - - - - - - - - - - - - $ .50
By J. G. TYLER
No. 10, 1914 Distributional List of the Birds of Arizona; *133 pp., 1 map* - - - - - - - - - - - $1.00
By H. S. SWARTH
(With all orders for Avifauna 10, we include the *supplement.*)
Supplement to Pacific Coast Avifauna No. 10. The author, Anders H. Anderson, *has brought this state list up to date.* Reprint from The Condor, 36, March, 1934, pp. 78-83 - - - - - - - - - - - - - - $ .30
No. 11, 1915 A Distributional List of the Birds of California; 217 pp., 3 maps - - - - - - - - $1.00
By J. GRINNELL
No. 12, 1916 Birds of the Southern California Coastal Islands; 127 pp., 1 map - - - - - - - - $ .50
By A. B. HOWELL
No. 13, 1919 Second Ten Year Index to The Condor, volumes XI-XX (1909-1918); 92 pp. - - - $2.00
By J. R. PEMBERTON
No. 14, 1921 The Birds of Montana; 194 pp., 35 illustrations - - - - - - - - - - - - - - - $2.00
By ARETAS A. SAUNDERS
No. 15, 1923 Birds Recorded from the Santa Rita Mountains in Southern Arizona; 60 pp., 4 illustrations. $ .50
By FLORENCE MERRIAM BAILEY
No. 16, 1924 Bibliography of California Ornithology; 2nd Installment; 191 pp. - - - - - - - - - $2.00
By J. GRINNELL
No. 17, 1925 A Distributional List of the Birds of British Columbia; 158 pp., colored frontispiece and map, 26 line maps, 12 ills. - - - - - - - - - - - $1.50
By ALLAN BROOKS and HARRY S. SWARTH
No. 18, 1927 Directory to the Bird-life of the San Francisco Bay Region; 160 pp., one map, colored frontispiece - - - - - - - - - - - - - - - - $1.50
By JOSEPH GRINNELL and MARGARET W. WYTHE
No. 19, 1929 Birds of the Portland Area, Oregon; 54 pp., 21 illustrations - - - - - - - - - - - - - $ .50
By STANLEY G. JEWETT and IRA N. GABRIELSON
No. 20, 1931 Third Ten Year Index to The Condor, volumes XXI-XXX (1919-1928); 152 pp. - - $2.00
By G. WILLETT
No. 21, 1933 Revised List of the Birds of Southwestern California; 204 pp. - - - - - - - - - - $2.00
By G. WILLETT
No. 22, 1934 Birds of Nunivak Island, Alaska; 64 pp. - - - - - - - - - - - - - - - - $1.00
By H. S. SWARTH
No. 23, 1936 The Birds of Nevada; *145 pp.* - - *$2.00*
By JEAN M. LINSDALE
No. 24, 1936 The Birds of the Charleston Mountains, Nevada; *65 pp., 13 illustrations* - - - - - *$1.00*
By A. J. VAN ROSSEM
No. 25, 1937 The Natural History of Magpies; *234 pp., colored frontispiece. Bound with stiff paper cover*, $2.50
Bound in full velum cloth, $3.50
By JEAN M. LINSDALE
No. 26, 1939 Bibliography of California Ornithology; 3rd Installment; *235 pp.* - - - - - - - - - - *$2.00*
By J. GRINNELL
No. 27, 1944 The Distribution of the Birds of California; 608 pp., *57 distributional maps, colored frontispiece.*
Bound with stiff paper covers - - - - - - $6.00
Bound in strong buckram - - - - - - - - $7.00
By JOSEPH GRINNELL and ALDEN H. MILLER

MISCELLANEOUS PUBLICATIONS

Check-list of the Birds of Utah, by William H. Behle, *reprinted from The Condor, March-April, 1944, Vol.* 46, No. 2, pp. 67-87 - - - - - - - - - - $ .30

Biographies

H. W. Henshaw: 56 pp., 3 pls. (from CONDOR, 1919-1920) - - - - - - - - - - - - - - - $ .50
*Robert Ridgway: 118 pp., 50 ills., with a complete bibl*iography of his writings (from Condor, 1928) - $ .50

Bird Art Catalogues

Catalogue of an exhibition of paintings by American Bird Artists, First Annual Meeting, Los Angeles Museum, April, 1926; 24 pp. - - - - - - - - - - - - $ .50
Catalogue of the work of Major Allan Brooks shown in connection with the Third Annual Meeting of the Cooper *Ornithological Club, May 4-6, 1928, under the* auspices of the San Diego Society of Natural History, Fine Arts Gallery, Balboa Park, San Diego, Calif.; *10* pp. - - - - - - - - - - - - - - - - $ .25
Catalogue of an exhibition of bird paintings by Lynn Bogue Hunt, sponsored *by the Southern Division of the* Cooper Ornithological Club at the Los Angeles Museum, April, 1929; 16 pp., portrait of Lynn Bogue Hunt, and *7 half-tones* - - - - - - - - - - - - $ .25
An exhibition of scientific drawings by John Livzey Ridgway, shown by the Los Angeles Museum, on the occasion of the Fifth Annual Meeting of the Cooper Ornithological Club - - - - - - - - - - - $ .25
Catalogue of an exhibition of original water colors by Major Allan Brooks, shown under the auspices of the Cooper Ornithological Club, Los Angeles Museum, April, 1936 (Eleventh Annual Meeting of the C.O.C.); 15 pp. and 9 half-tones, including one of Major Brooks - - - - - - - - - - - - - - - $ .25

Other Publications

The Story of the Farallones, 1897; 36 pp., 28 ills. $ .25
By C. BARLOW
Report of the Birds of Santa Barbara Islands. Pub. No. 1. Pasadena Acad. Sci., August, 1897; 26 pp. - $1.00
By J. GRINNELL
Birds of the Pacific Slope of Los Angeles County. Pub. No. 2, Pasadena Acad. Sci., March, 1898; 52 pp. $ .50
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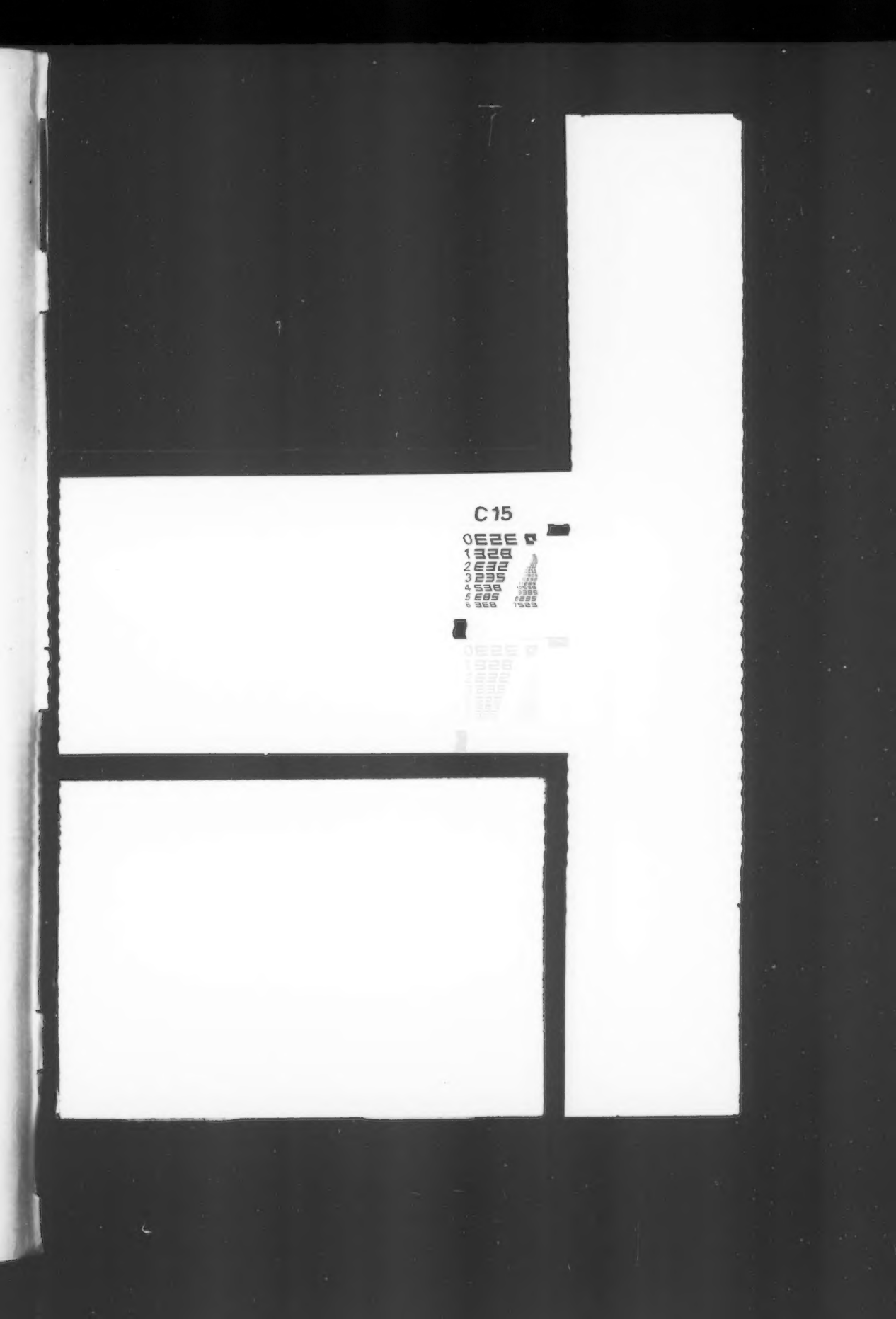
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